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"It will flourish, if naturalists, chemists, antiquaries, philologists, and men of science, in different parts of *Asia* will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted; and it will die away if they shall entirely cease."—SIR WM. JONES.

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JOURNAL

OF THE

ASIATIC SOCIETY.

No. III.—1851.

On the Comparative action of the Marine and Aneroid Barometers and Simpiesometer in Cyclones.—By HENRY PIDDINGTON, President of Marine Courts.

The Aneroid Barometer has justly excited much interest amongst scientific and nautical men, and its performances on long voyages have been, I believe, generally well spoken of. Some registers of the comparative action of the Aneroid and Mercurial Barometers and Simpiesometer from England to Calcutta have been sent to me and the results are certainly most creditable to the new instrument.

Dr. Buist of Bombay has also published some interesting experiments on the performance of the Aneroid when carried to the Neat's Tongue, an elevation of 1000 feet, which are also most creditable to its performance.*

But the registers above alluded to are registers of fine weather voyages, with nothing more serious than one or two of the usual Westerly gales off the Cape, and in Dr. Buist's experiment the temperature, it will be recollected, decreased as well as the weight of the atmospheric column. We have as yet no published account, that I am acquainted with, of the comparative action of the Aneroid and Mercurial Barometers and Simpiesometer in great and sudden falls, at high temperatures.

* Simpiesometers are spoken of in the note, but we have only the comparison with the Barometers given.

Such falls varying from half an inch (0.50) to two and a half inches (2.50), or even more, we know occur in the Tropical Cyclones,* and in these the Thermometer is perhaps always between 75° and 80° ; and, speaking of course theoretically, and from the diagrams of the instrument, it has always appeared to me questionable what the action of an Aneroid would be in one of our China Sea Tyfoons, or Bay of Bengal or Malabar Coast Hurricanes; that is, if it would equal the Simpiesometer, if it was even found to be as good as the Barometer as to *time*, in warning of the approach of the Cyclone? and again if its index would, at the height of the Cyclone, shew the same amount of diminished pressure? A few very simple experiments by the instrument-makers, or by Amateurs of physical research, who may have the necessary apparatus, would solve this doubt; but the instrument-makers are not likely to be desirous of checking the sale of a new and rapidly spreading article; and scientific men in Europe, unless they have attended to the subject, have little conception of what a singular and wonderful complication of meteorological phenomena a tropical Cyclone in all its terrific power presents.†

* I have given in the *Sailor's Horn Book*, p. 233, a table of excessive falls of the Barometer in Cyclones comprising fourteen well attested instances of falls from 2.70 to 1.50.

† *Ex. gr.* In the *Elements de Physique Experimentale et de Meteorologie* of Pouillet, fifth edition (1847) Vol. I. p. 142, we are gravely told that "Des 1690, le Père De Beze avait reconnu qu'à Pondichéry et à Batavia le baromètre reste immobile, quelles que soient les tempêtes que l'on éprouve: Legentil avait confirmé ces observations; et maintenant il est bien démontré que, dans toute la zone équatoriale, le baromètre est en effet insensible aux secousses atmosphériques, mais qu'il éprouve cependant des variations périodiques et régulières, que l'on appelle variations horaires."

As early as 1690 Father De Beze had found that at Pondicherry and at Batavia the Barometer remains unaffected whatever tempest be felt. Le Gentil had confirmed these observations, and it is now well demonstrated that throughout the equatorial zone *the Barometer is really insensible to violent atmospheric disturbances* (secousses) but that it experiences regular and periodic variations which are called hourly variations." M. Pouillet's name is, as most of my readers may know, next only to that of MM. Arago and Biot as a Professor of Physics; and his work is the standard one in the University of Paris!

I have found then with great satisfaction an instance in which the Aneroid, Mercurial Barometer and Simpiesometer have been carefully registered in a Cyclone, though not one of the very severest class, and moreover one in which the fall of the Barometer was trifling as compared with many of which we have full details. Nevertheless as the first instance of the kind on record, and with the hope of leading public attention to this very important scientific question—for the great portability and convenience of the Aneroid are very tempting advantages to induce many seamen who can ill afford money or room for a multiplicity of instruments, to substitute it wholly for the Barometer and Simpiesometer,—I have thought it useful that the details should be published.

This instance has been furnished to me by Mr. Branch Pilot S. Ransom of the H. C. Pilot *Brig Tavoy*, which he commanded in the April Cyclone of 1850, and it will be sufficient to state here that the Cyclone was one which has been traced from near the Nicobar Islands to Moorshedabad, a distance of 1,000 miles.

Its centre passed at about 2 A. M. of the 27th April about 60 miles to the West of the *Tavoy*, which vessel was then cruising at the Pilot Station and had put to sea to get an offing. Mr. Ransom has given a very full series of observations of which the result for 36 hours will be seen by the following tables to which I have interpolated the differences : the principal results being given first, to save room, and Mr. Ransom's detailed table last.

The principal results are as follow.

	<i>Mar : Bar. Diff.</i>	<i>Aneroid. Diff.</i>	<i>Simp. Diff.</i>
26th April, 1850,	29.77	29.94	30.05
At 2 A. M.	— 0.14	— 0.16	— 0.35
2 P. M.	29.63	29.78	29.70
	— 0.26	— 0.25	— 0.25
27th April, 2 A. M.	29.37	29.53	29.45
	+ 0.33	+ 0.32	+ 0.34
2 P. M.	29.70	29.85	29.79

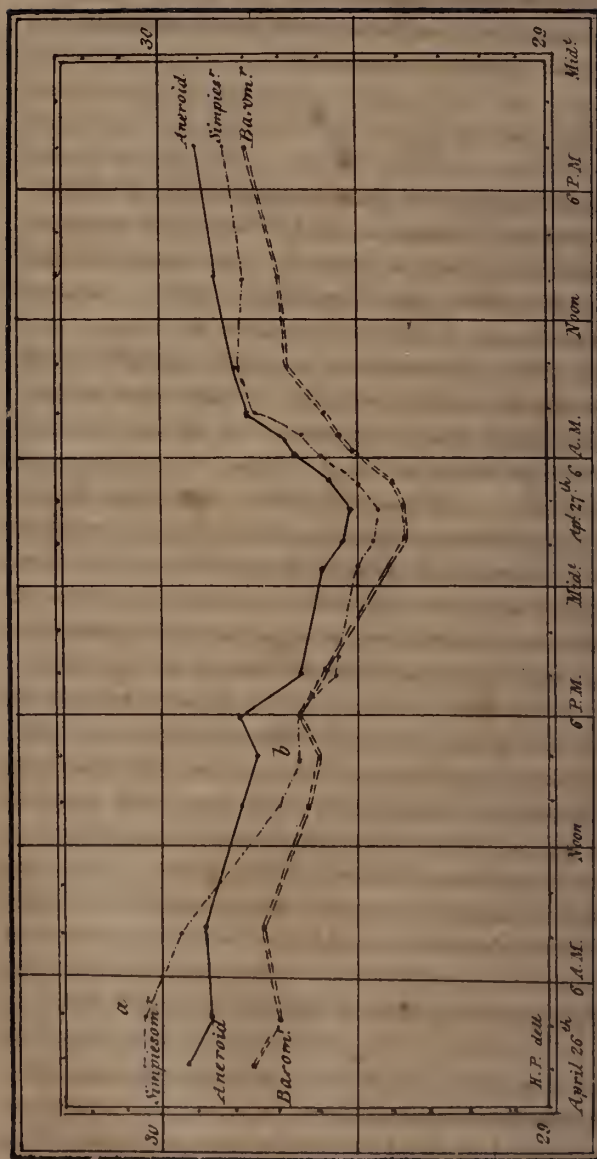
*Table of Barometrical, Aneroid, Simpiesometer and Thermometer observations on board the H. C. P. V. TAVOY, Commanded by Mr. S. RANSOM, B. P. Civil Time.**

<i>Date.</i>	<i>Time.</i>	<i>Ther.</i>	<i>Mar : Bar.</i>	<i>Aneroid.</i>	<i>Simp.</i>	<i>Wind.</i>	<i>Weather.</i>	<i>Aspect.</i>
Tuesday, 26th April, 1850.			<i>Diff.</i>	<i>Diff.</i>	<i>Diff.</i>			
	2 A. M.	82°	29.77	29.94	30.05	Strong N. E.	Squally.	Dense clouds.
			—07	—07	—00			
	4	82°	.70	.87	.05			
			+05	+02	—11	Calm.	Blowing and rain.	Clouds Dense cloudy.
	8	84°	.75	.89	29.94			
			—12	—11	—24			
	2 P. M.	82°	.63	.78	.70	East gale.		
			—02	—02	—05			
	4	82°	.61	.76	.65			
27th April.			+04	+02	+01	East gale.		
	6	82°	.65	.78	.66			
			—08	—13	—10	East gale.		
	8	82°	.57	.65	.56			
						E. to S.E.	Squally Hurri- cane.	Fierce indeed.
	1 A. M.	80°	29.41	29.59	29.50			
			—04	—06	—05			
	2		.37	.53	.45			
			—00	—02	—1			
	3.30		.37	.51	.44			
			+13	+06	+06			
	5		.40	.57	.50			
			+10	+09	+10			
	6.20		.50	.66	.60			
			+14	+03	+04			
	7	81°	.54	.69	.64			
			+05	+09	+11	S. S. E.	Hurri- cane.	
	8	81°	.59	.78	.75			
			+09	+04	+04	South.		
	10 A.M.	82°	.68	.82	.79			
			+02	+03	—	S.S.W.S.	Moderate	
	2 P. M.	82°	.70	.85	.79			
			+10	+06	+04	S. S. W.	Fine wea- ther.	
	8	82°	.80	.91	.83			

The lowest depression was at 3.30 A. M. on the 27th April, when the instruments stood as follows :

<i>Mar : Bar.</i>	<i>Aneroid.</i>	<i>Simpiesometer.</i>
29.37	29.51	29.44

* The Tavoy's Aneroid is supplied by Government and of course from the best maker : I believe from Messrs. Dent and Co.



MARINE BAROMETER, ANEROID, and SIMPIESOMETER, in the

H.C. P.F. TAVOY 26th & 27th APRIL 1860.

Hence it will be seen that the Simpiesometer had about double the fall in the first 12 hours on the approach of the Cyclone, and that the entire fall of the instruments was, for $25\frac{1}{2}$ hours, or from the first fall up to the passage of the centre, as follows :

<i>Mar. Bar.</i>	<i>Aneroid.</i>	<i>Simpiesometer.</i>
0.40	0.43	0.61

The Simpiesometer giving *one third* more fall than the Marine Barometer and Aneroid. Throughout this Cyclone the Thermometer varied only 4° ; being at 84° at 8 A. M. on the 26th, and at 80° from 1 A. M. to 6.20 A. M. on the 27th. The above table is projected on the plate, which is drawn to a vertical scale of 2 inches for one.

Cases of very severe Cyclones have occurred, especially in the Southern Indian Ocean, in which the fall of the Barometer has been so insignificant as wholly to mislead the seaman, but the Simpiesometer has both shewn a greater depression and shewn this *in time* to put him on his guard. Notable instances of this are the Cyclones of the *Buccleugh* and of the *Vellore* ; the last investigated by Dr. Thom. In the *Buccleugh's* Cyclone though of terrific violence (See Sailor's Horn Book, p. 232, 2nd Edition) the Barometer did not fall below 29.76 on its approach : but the Simpiesometer had been 0.38 lower for a week previous, and fell 0.82 lower than the Barometer during the Cyclone.

But it will be remarked of the *Tavoy's* table just given, that after the depression of the first twelve hours, or say from *a* to *b* on the plate, and on the rise after the greatest depression, the instruments shewed nearly the same differences ; and I have said above that I was speaking theoretically of the probable action of the Aneroid as regards *time* of warning, which for the Mariner is the one thing needful. This I will now endeavour to explain, and those who have considered the subject of Barometers philosophically will agree I think with me that the result here detailed goes far to justify one of the two theoretical objections which the construction of the Aneroid suggests ; and which strange to say, has never been adverted to by the inventor or sellers, that I am aware of. And it is this. We are told a good deal of temperature, but they seem to have taken no notice of another great principle in physics, INERTIA, and to this I attribute at once the superiority of the Simpiesometer.

That Inertia is every where present and must always be first overcome, no one acquainted with the laws of physics will question, as also that it resists motion at all times, and on the minutest as well as on the largest scale. Now considering first the common Marine Barometer (the sluggish Barometer as Mr. Dent* somewhat unfairly terms it), we have here, the Inertia of the column of mercury and its attraction of cohesion, and then—and in dry weather and with badly prepared leather, this may not be trifling, the Inertia (want of elasticity) of the leathern bag in which the mercury is inclosed in the box, or of the leathern bottom to it, to overcome, before a minute atmospherical variation can affect the column. Our practice of gently tapping the Barometer before reading off is the familiar recognition of the existence of all these obstacles to the free motion of the mercury.

In the Aneroid we have the Inertia of the plate covering the vacuum vase, and then the Inertia and friction of a train of machinery levers, &c. to overcome before we move the hands; and when we recollect that, even with the powerful spring of an eight-day Chronometer, the balance must, in sailor language, “get a start” by the semi-circular motion which must be given to it to set it going when it has been wound up after being let down, as every one who understands the management of Chronometers is aware, we can form some idea of what the Inertia and friction of the machinery of the Aneroid, trifling though it be, amounts to.

In the Simpiesometer we have only the Inertia and attraction of cohesion of the small column of oil, or acid† to overcome; the whole of which probably does not exceed that of an inch of the Barometric column; for, as the atmosphere acts directly upon the surface of the liquid in the curved tube, all that Inertia which arises from the greater or less flexibility of the leathern bag, and the great weight of the mercurial column being avoided. In the fixed standard Barometers this direct action upon the surface of the mercury is also allowed to take place, but the weight of the column still remains. There may

* Treatise on the Aneroid.

† Some Simpiesometers are said to be filled with an acid, but it is difficult to imagine what kind of acid would not either evaporate or absorb water, unless as I suppose, the top is covered with oil.

be an infinitesimal Inertia in the atoms of the gas of the Simpiesometer but this must be to a very small amount, and exists also in the Aneroid.

We can thus readily conceive why the Simpiesometer should be theoretically the most sensitive instrument. It must have less Inertia and friction to overcome, than the most delicately made Aneroid, in which, however well constructed, there must be, according to the drawing, 6 pivots, 1 bow-piece, 2 springs, 2 fulera, 2 rods, 1 chain, 1 roller, 1 collar, 2 levers, and the condensing box-cover to move, or rather (for the sailor's term is the most expressive here) to "give a start to"* before motion takes place; and all these have their Inertia, friction and some also an attraction of cohesion, however small it be, ready to resist a minute atmospheric change, especially after any repose.

The fact that the instrument acts as well or better than the Barometer during gradual changes, or when carried to the top of a house or hill, seems to me also strongly to confirm this theory (for I beg it may be taken as yet for nothing else), that it is the difference of Inertia which will always render the Simpiesometer the most trust-worthy instrument for a *timely* indication of a change. For we must recollect that the Inertia of every machine apparently increases with the time of perfect rest, because, it is supposed, a small amount of cohesion takes place. Now when the Aneroid or Barometer are moved from their places, whether to be carried up stairs only, or to the top of a mountain, they are, however carefully handled, jarred sufficiently for the mere vibration of the parts of the Aneroid and the motion of the mercury to overcome that portion of their Inertia which depends on cohesion; and even if we suppose that the instruments could be moved without any vibration or motion of the mercury, which is impossible, there is still the change of temperature, which is quite sufficient to destroy the minute cohesion of which we are speaking, and diminish

* If a billiard ball be placed upon a table it may be moved (started) by the smallest feather. If an 18 pound shot replace the billiard ball, a strong quill will bend before the shot is started. This is, for Sailors, a familiar illustration of Inertia. If the ball or the shot be left for some hours it will if measured by instruments be found that a slight additional force is required to move it, because some cohesion has taken place. If a bolt or pin be passed through the balls, and they are suspended like the sheave of a block, they will then oppose both their Inertia and the friction of their pivots to the power which puts them in motion.

the Inertia. Perhaps if the Aneroid had been gently tapped with a fillip of the finger it might have shewn a greater fall. If it did not do so, then the difference of pressure was so gradual that it could not overcome the Inertia and friction. It is true that the motion of the vessel must have disturbed or done away with the Inertia of the Barometric column, but that of the leathern bag, or its inflexibility rather, still remains.

And thus we arrive at what I set out with, viz. that in a great change of atmospheric pressure, *without* much if any change of temperature, the Simpiesometer would be found the most sensitive instrument as regards time. In this case though not an extreme one it has been so found, and I have endeavoured to assign a reason for it. We must wait to see if other instances will confirm or modify these views.

I do not consider this instance the less valid that it was one of those in which the Barometer failed to give very timely warning, (though enough for every vigilant seaman when the other premonitory signs of the weather were taken into account), and was moreover one in which the total depression of the instruments was very small. It is exactly in cases like this that the seaman, and especially if in a short-handed merchantman, requires the aid of the most sensitive of the forewarning instruments, the instrument warning him to watch the weather, and the weather sending him to look at his instrument. For the present the Aneroid has not at all justified Mr. Dent's anticipation (p. 32 of his treatise on the Aneroid) of its "responding in a moment to the influence of atmospheric pressure." The Sailors will think also with me that it will be some little time before we shall have a chance of seeing Mr. Dent's exemplification of the convenience of the Aneroid verified, which I copy here as an amusing instance of the facility with which men may be led by their desire to recommend a new and favourite instrument to advance confidently what is in effect a sheer nonsensical puff.

"As an exemplification, it may not be amiss to lay before the nautical man the case of his being, while in his cabin, made sensible, by means of the Aneroid, of a sudden change likely to take place in the atmosphere. An important alteration might be immediately necessary in the adjustment of sails, &c., which, by the timely information afforded him through the Aneroid, he would at once have accomplished, long before the common *Marine* Barometer had even signified the

coming change. Instead of being obliged to proceed backwards and forwards from the deck to his cabin to consult the *Mercurial* Barometer, he remains on deck with the Aneroid in his hand, and is immediately certified of every atmospheric variation while he is issuing orders to the ship's company. A result more desirable than that which is here supposed, cannot, perhaps, be easily contemplated; and yet it is one which, it is confidently asserted, the new instrument in question cannot fail to produce."

It is much to be regretted that this error is now-a-days too common of exalting the imagined or anticipated virtues of an invention so far that the actual results may bring useful instruments into discredit. The Aneroid is, like the first Chronometer, but a first step in instruments of that class, and we shall doubtless soon see trials in which mechanical ingenuity will simplify and perhaps overcome many of the present difficulties. I need not add that I have no prejudice, as I can have no possible interest in any way but to serve the cause of the Sailor, who may be too hastily led to pin his faith to the new invention in preference to the Simpiesometer, which is now a standard instrument; and the very defect which it has been charged with, that of being so sensitive that it disquiets a commander of a ship needlessly, is in truth a perfection when its uses are properly understood.



A Comparative Essay on the Ancient Geography of India.

[This fragment was written by Col. Wilford about forty years ago, and by him fairly copied, and deposited in the Asiatic Society's Library. It is now published at the request of some members, and in the hope, that, though much has been of late done towards illustrating the Comparative Geography of India, the conjectures, and even the errors and fallacies of such a man as Col. Wilford will not prove uninteresting to the reader.—ED.]

The oldest name of India, that we know of, is COLAR, which prevailed till the arrival of the followers of Brahmá, and is still preserved by the numerous tribes of Aborigines, living among woods, and mountains. These Aborigines are called in the peninsula to this day, *coláris* and *colairs*; and in the north of India *coles*, *coils*, and *coolies*; thus it seems, that the radical name is *cóla*. This appellation of *colar* was not unknown to the ancients; for the younger Plutarch says, that a certain person called *Ganges*, was the son of the *Indus* and of *Dio-Pithusa*, a *Calaurian* damsel, who through grief, threw himself into

the river *Chliarus*, which after him, was called Ganges ; and *Chliarus* is probably a mistake for *Calaurius*, or the Colarian river.

I believe, that *Dio-Pithus* is the name of the father and *Sindhu* of the mother : for *Deva-Pi't'hu*, or *Deo-Pithu* is worshipped to this day on the banks of the *Sindhú*, a female deity. The etymology of *Colar* is probably out of our reach : but it is asserted by some that *Cola*, *Coil*, or *Cail*, signify a woodlander, exactly like *C'hael*, *Gál*, in Great Britain ; and the etymological process is the same. In several dialects of the peninsula *Cádu*, is a forest, and its derivative is *Cádil* ; from which, striking off the *d*, remains *Cail*. *Coed*, *Guedh* in Welsh, *Coet* in Galic is a forest, and from them come *Guidhil*, and *Gathel*, *Guylh*, *Coil*, *Gael*, and *Cael*.

This etymology is certainly curious ; but as they call themselves *Coles*, *Coils*, or *Cails*, the origin of that name is to be sought for in their own language, which does not, as far as my enquiries go, admit of such a derivative.

The followers of *Brahmá* and *Buddha*, call India *Bhárata*, from an antediluvian prince. It is according to the *Mahá-bhárata* of a triangular figure.* Its base rests upon the snowy mountains, and Cape Comorin is its summit. This equilateral triangle is divided into four other triangles equilateral also, and of equal dimensions. There are three in the north, and the one in the south represents the peninsula. The three triangles in the north, meet exactly in the middle of the basis of the larger one, upon the banks of the river *Drishadvatí*, a little to the N. W. of *Sthán'e-svara*, or *Than'eh-sur*, according to a very curious passage from the commentaries on the *Vedas*, communicated to me by Mr. Colebrooke. These four triangles, with the four grand divisions of India, which they represent, are denominated from their respective situation. Thus we have the middle country, the N. E., and N. W. quarters, with *Dacshina-patha*, in the spoken dialects *Dakin-páth*, or the southern paths ; from which the Greeks made *Dac'hinabadés* ; for, says Arrian, *Dac'hanos* in Hindi, signifies the south. This division, now totally disregarded, was adopted by Nonnus in his *Dionysiacs*, and also by Euhemerus, who was contemporary with Alexander, and was patronised by Cassander king of Macedon. The latter has omitted the middle country, without any impropriety, as it is of

* Section of *Bhishma-parva*.

small extent, and was in general parcelled out, among the three other divisions. Three of these divisions, had also other names; the N. E. quarter is styled *Anu-Gañgam*, or along the Ganges: the N. W. was called *Sindhú-de'sa*, or country of Sindhú, or Sind: the peninsula or *Dacshinapat'h*, is denominated *Caliñga*, or maritime country: and it was known to the Greeks under that name; for Ælian says, that, as the elephants of Taprobane were superior to others, the kings of the *Caliñgas* procured them from that island. Euhemerus does not use the word *Caliñga*, but calls its inhabitants *Oceanitæ*, which implies the same thing.

To the country along the banks of the Ganges, he gives the name of *Doia*; at least he calls its inhabitants *Doians*, from *Dhúk* the name of the Ganges, from Rájmañ to Dhácá, and the sea. The country along the Indus, he calls *Panchæa*, from the ever famous *Pinga'sa*, or *Pinga*, who lived in that country, and with all his followers emigrated, beyond the western sea, between India and Africa; and settled on the banks of the river *Crishná*, *Syámá*, or the Nile. The Pauráñics, instead of *emigrated*, say that he *transmigrated* there, with those who were attached to him.

The denomination of Bhárata is used only by learned men, and even seldom; and it is of course unknown to foreigners, who bestowed upon the whole continent of India, the name of that part of it nearest to them. Thus in Tartary, it is called *Anu-Gañgam*, or *Anonkhenkh*: in the west it was called *Sind*, *Hind*, India from the country of *Sindhu*, on the river of the same name. In Pegu, Ava, Sumatra it is called *Caliñga*, from the peninsula, which they frequented most. In the countries of Láhdaca, *Dsábád'am*, or Dsaprong, India is called *ZAC*; but whether it meant originally all India, or only part of it, is uncertain. According to this three-fold division of India, I shall divide my Essay into three parts, and begin with *Caliñga*. Pausanias mentions three large islands, or countries bordering upon the sea, in the remote parts of the Erythræan Ocean. Their names were *Séria Sacaiá*, and *Abasa*, or *Abasan*. The first is obviously China, still called the kingdom of *Ser* in Tibet. *Sacaiá* for *Zúceya*, or the country of *Zác* is Indostan: and *Abasa* is the *Bhaisa*, or *Bhainsa*, or Buffalo country on the banks of the Indus: I am not well prepared to discuss this point at present, being but very lately acquainted with the subject.

ZAC to be pronounced *Zauk*, is an ancient hero, who according to tradition was inimical to the followers of Brahmá, when they came to India; for they unanimously acknowledge, that they are not natives of this country, and that they came from the N. W. He is of course considered as a Daitya, or evil spirit by them: and *Zác*, or *Zaco* is the devil all over the western parts of India, as far as Ceylon. In the month of January, in the year 1809, I saw a statue of his, between *Furreh*, and *Ach'hanerá*, and about ten cos S. by W. of Muttra. It might have been originally about fifteen feet high, but it is now broken to pieces. It is still an object of worship among some low tribes, who call him *Zác-Bábá*, or ZAC our lord, and father. He is the same with *Máhis'a-pati*, or lord of the Buffalo tribe, called in the Puráṇas *Mahisásura*; and who resided at *Nausha-pura*, according to the *Bhuvana-Ságara*, and the *Dionysiopolis*, or *Nagara* of Ptolemy, towards Cabul. He worshipped gods different from those of the followers of Brahmá, whom he opposed, and was defeated near Cabul. He fled toward the Indus, where he was put to death, near the rock called *Yulluleah*, where they show the place where his tomb stood formerly. According to the natives, he was a shepherd called *Yulluleah*, from the Sanscrit *Luláya*, another name for *Mahisásura*: and this story is related by the younger Plutarch who calls him *Lilaios*.*

In Sanskrit he is also called *Rhambha* and in the Dekkin *Erumai* is a Buffalo and *Heramba* is another name of his. He was the grandson of the famous Bali, who resided at Baroche; and was emperor of India. He was also an incarnation of Siva, and his father *Rambha*, or *Vánu* reigned on the banks of the Indus, according to the *Pauráṇ'icas*. There we must look for the country of the *Erembi*, or *Arimi*, where lived Typhœus, and there was the rock of Typhon, who is represented riding upon an ass, which was also his symbol, for *Mahisa* is also the name of the *Cásara*, or wild ass. From *Mahis'a* comes *Bhaisa* or *Bhainsa*, in the spoken dialects, and *Bhaisonh* in the plural. The Greek and Latin name *Bison* for a Buffalo claims the same origin. In the north, and N. W. of India, this animal is called *Zac*, and *Yác*; which, in some dialect, there, is restricted to the *Saurya-gábhí*: and I suspect that the countries of *Sacai*, and *Abasan* are the same. The above passage from the *Bhuvana-Ságara* is noticed by Sig. Bayer, and others

* Plutarch de Flumin. voce Indus.

after him, as Bryant, &c. Lula'ya the chief of the Buffalo tribe or Mahis'a-pati was succeeded by another incarnation of Siva, with the title of Gapati, or the lord of the cow tribe, who introduced the *Bos*, or cow into India: for there were none before. Buffaloes were the only cattle: and the followers of Brahmá, having thus brought the cow, and introduced her into this country, they assumed the title of *Go-ransas*, or the offspring of the cow, which they call their mother. Siva, and his incarnations, or *avatáras*, are styled *Bhagwan*, Bæchon, or Bæchus: and the *Mahis'a-pati*, and *Gopati* are of course entitled to that epithet: the former is Bæchus *Tacchos*, and the other Bæchus *Tauromorphos*.

Nausha-puri, called in the Bhuvana-Ságara, in the Támuli dialect *Nishádáburam*, or the town of *Nisha*, is the Nysa of the Greeks, near mount Meros, now Mar-coh. *Luláya* was defeated close to Cabul, by the *Gopati*, with the assistance of *Deví*, with the title of *Ásá*, or she who grants us the object of our wishes. She is also called *Jayá deví*, or the goddess of victory, and her *sthán* is still resorted to, by devout people. Alexander recognized Pallas in her, and worshipped her: and *Nicaia*, or *Nicæa*, or the place of the goddess of victory, is a translation of *Jayá-deví* in Hindi.*

Mahisa or Luláya was once for a considerable time the supreme monarch of heaven and earth, and set upon mount Olympus in the room of Indra, styled *Juh-pati*, that is to say the lord of heaven, or Jupiter. The case is this: our divine ancestor *Twash'tá*, styled *Deva*, or God by the Pauránics, had been intrusted with the five elements; out of which, he made *Man*, *manushya*, or Mannus, and all the *murtis* or embodied forms. *Indra*, or Jupiter, in a fit of ill humour, killed his son *Visva-rupa*, in whom was concentrated the threefold energy of the world. *Twash'tá* meditated vengeance; and for this purpose lighted the sacred fire, with that element, which he extracted from water, through a curious, and most difficult process. In the mean time *Indra* alarmed, fled towards the north, and concealed himself. *Twash'tá* appointed *Mahis'a* in his room, and he would still be *Juh-pati*, or Ju-piter even to this day, but for a most singular accident. *Twash'tá*, whilst repeating sacred spells, placed the emphatical, or

* Asiatic Researches, Vol. vi. p. 495.

secondary accent on the wrong word ; and thus blasted his own scheme ; Indra resumed the Olympian throne ; Mahis'a was defeated, and lost his life. As, in the present case, the idiom of the Sanskrita, and Latin languages, coincide, at least in the poetical dialect, I shall illustrate this passage in the latter. Twash'tá said *Indr inimicum auge* ; and I write it, as it would have been pronounced in poetry, with the usual elision. Now this sentence is susceptible of two meanings : it may be either *Indræ inimicum auge*, or *Indram inimicum auge*. In the first case, the emphatical accent is obviously to be placed on the word *inimicum*, requesting the gods to increase, and enlarge the power and strength of the *enemy* of Indra. This Twash'tá wanted to say : but he was so much agitated, that he placed the accent upon the word *Indr'* : then the phrase became *Indram inimicum auge*, or give strength, and increase to *Indra* my enemy : for the emphatical accent, in no language whatever, can be placed upon a word in regimine.

This is the Bacchus, whose companions were styled *Cabali*, by the Greeks : for the army of *Mahis'a* consisted of many myriads of *Gopá-las*, or shepherds, called in the Tamuli dialect, in which the Bhuvana-ságara is written, *Cobáler* in the plural, from the singular *Cobála*. As an *avatára*, incarnation, or embodied form of Siva, *Mahis'a* certainly was inferior to none : he was besides a most religious prince, and beloved by every body. We may then naturally ask, how it happened, that he was destroyed by his own prototype *Siva*. This is explained in the following manner, by learned divines. After certain revolutions, religion with the creed, and its various rites, must undergo certain modifications, and even alterations. *Mahis'a* was a follower of the old religion, which he had been even sent to protect for a certain time, When a modification, and an alteration in religion was going to take place, we might suppose, that this divine *incarnation* would readily submit, or otherwise, be recalled : but this is by no means the case : for all these embodied forms of the deity, being obviously under the influence of *máyá*, or worldly illusion, will never submit, or deviate in the least from the object of their mission ; though now no longer necessary. In this case, they are to be destroyed, with all their adherents : when the embodied form rejoins its prototype, who bestows heavenly bliss on his slaughtered followers, in his own heaven. But this subject I shall resume in my Essay on the countries bordering upon the Indus.

PART THE FIRST.

OF CALINGA OR THE SEA COASTS FROM CAPE MÚDÁN TO
CHÁTGANH.

SECTION I.—Of the Sea Coast about the mouths of the Indus.

The Sea Coast, or CALINGA, of India, is divided into three parts, emphatically called *Tri-Caliṅga*, or the three shores. The first *Caliṅga* includes the Sea Coast about the mouths of the Indus: the second extends all round the peninsula: and the gangetic shores, from Cuttack to Chátganh, constitute the third. No emperor in India, could pretend to celebrity, and lasting fame, unless he was master of these three shores; when he assumed the title of *Tri-Caliṅgádhpati*, the lord paramount of *Tri-Caliṅga*. There were three competitors to that title, the *Mahárájá* on the banks of the Ganges, the *Ballála* in the peninsula, and the *Bala-rájás* near Gujjarát. Their most formidable opponents to supremacy, were the proud *Gurjaras*, and those of *Utcála* now Orissa. The latter are said, in the inscription upon a pillar near Buddál, to have been eradicated; and that the king of Gour enjoyed their country.* They are of course much fallen off, with regard to civilisation. With a few exceptions in some places, they are a rude, and wild race, which have even forgotten the use of salt: for in India such tribes, as do not use it, are considered as barbarians, little remote from the brute creation.

The first *Caliṅga* is about the mouths of the Indus; and we know but little of it. Some sketches, and delineations of the coast, have appeared occasionally; but they afford but little information, as they materially differ from one another, and are often contradictory. The natives of that country seldom travel, and merchants have little inducement to visit it: but near Cape *Múdán*, there is a famous place of worship called *Hĩṅgláj*, resorted to from all parts of India, by devout pilgrims. These are numerous indeed, and I shall lay before the Society, the result of the compared accounts of the most intelligent among them. Besides pilgrims, I never saw but one person, who had visited that country: he lived at Tha't't'há in a public capacity for seven or eight years, and left it very near fifty years ago. The account of the pilgrims is, as may be supposed, intermixed with many legen-

* Asiatic Researches, Vol. 1st.

dary tales, which, though fulsome, and ridiculous, are nevertheless so much connected with the geography, and history of the country, and they throw so much light on many particulars, that I have found it necessary, to give occasionally some short abstracts of the most interesting.

The country of Cutch, in Sanskrita *Cach'ha*, and also *Cunti*, is the rendezvous of pilgrims going to Hīnglāj. Those, who come from the N. E. follow nearly the course of the river Paddar: the greatest number from the East and S. E. are obliged to cross the gulf of *Cach'ha*, which is done at two places. The first is to the eastward of *Dwáracá*, at a place called *Rāin* in the maps. If the wind be favourable, they cross directly to *Máscá-Mun'di*, in an island at the mouth of a river, and near *Chigu-Mun'di*, on the mainland. Should the wind be unfavourable, as when blowing from the W. or S. W., they then go, and land at *Anjár*, and the distance is 24 cos: but this is reckoned a dangerous passage.

Pilgrims coming from Cambay, and having no business at *Dwáracá*, go to a place called *Morví*, through *Drángdhára*, and *Halwá'd'h*; thence to *Amronh*, where they embark, and sometimes go to *Anjár*; but more generally land at *Rávená'd'h*, *Rávená'd'hán*, or *Návendr* in the maps, and the distance is reckoned 27 cos.

From *Rávená'd'h* they travel N. W. to BHOJ the capital of the country, and 12 cos from the former place.

Those who land at *Anjár*, go along the shore to *Mo'drár*, or *Mun'drár*, *Rávená'd'h*, and *Máscá-Mun'di*, or *Mudí*. From this place to BHOJ they reckon 12 cos, in a northerly direction. It is a considerable town with a strong fort.

Before I proceed with our pilgrim's route, I shall sketch out its grand outlines, and ascertain the situation of some of the most remarkable places. From *Máscá-Mu'dí* to *Bhoj* 12 cos, or 22 British miles; bearing north, or nearly so. From *Bhoj* to *Ásápuri* 26 cos, or 49 miles: but from *Mosá* they reckon only 24 cos, or 45 miles. From *Ásápuri* to *Ghuí'deh*, near the mouth of the eastern branch of the Indus 27 cos, or 51 British miles. From *Ghuí'deh* to *Tathá*, or *Sháh-bandar* 37 cos, or 70 miles: but as you cross the main stream of the Indus three times, a considerable allowance is to be made, for the windings of the road; and I allow 62 miles. From *Sháh-bandar* to *Rám-bág*, or *Crá-*

chi, they reckon in general 40 cos ; but more correctly only 38, or 69 miles : a considerable allowance is to be made also here, and I allow 64 miles.

From *Rám-bág*, to *Hĩngláj*, they reckon in round numbers 80 cos ; but there are only 78, or according to some 79. From *Rám-bág* to *Sonémé-yáni* 28 cos, from the western side of the bay of *Cráchí*, or 29 from the eastern.

From *Sónémé-yáni* to *Hĩngláj* 50 cos ; some reckon 54, which difference is explained in this manner : from *Sónémé-yáni* you cross in a boat to the opposite side of the bay, and the distance is three cos, when the wind is favourable : but when it is not, you must take a circuit, through the bay, of seven cos, instead of three, and this accounts for the difference : but 50 cos is the true distance.

From *Sónémé-yáni* to the river *Haur* or *Tomerus* they reckon 44 cos, or 81 British miles, and hence to *Hĩngláj* 6 cos, or 11 miles.

From *Bhoj* they travel westward ; first to *Mancüáh* three cos ; then for seven cos the road is through thickets of underwood, here and there, and numerous detached hummocks ; the hills are to the right. You then enter a more agreeable and fertile country, and after travelling eight cos, you come to *Teherá*, a considerable town : and after eight cos more, comes the *sthán* of *Ásápurí-Déví*, a famous place of worship, to the westward of which is a pretty large stream, the easternmost branch of the Indus ; and about three or four cos from the sea, where, at the confluence, is also a place of worship. Near *Ásápurí* to the N. E. is a famous pool called *Checherá*, or *Zhejherá*, which communicates under ground with *Hĩngláj*, and other holy places. There is another pool of that name to the west of *Dehlí*, and called *Zizerus* by the Greeks. In the compound *Ásápurí*, *purí* does not signify a town, as I thought at first ; but the whole implies, that this goddess grants to us the completion *pura*, of our wishes *Ásá*. She is worshipped there under the title of *Vicháyáni-mátá-jananí-deví*, or the fostering goddess our mother, and author of our existence. This place is not the same, with the *Ásápurí* of the maps, on the sea shore.

Those who land at *Mascá-Mun'dí*, and who do not choose to go to *Bhoj*, go to *Ásápurí* on the sea shore : thence to *Náliyá-Co'thorá*, a small town ; thence to *Behrá*, and to *Tehará*. In the route of a pilgrim from *Bhoj* to *Tehará*, he mentions *Mána-cüáh*, *Náliyá-Co'thorá*,

Bherá and *Tehará* ; but the distances are omitted. The western extremity of the ridge of mountains in *Cach'ha*, is to the N. E. of *Ásá-purí* ; distance about eight, or ten cos, and probably to the north of *Tehará*.

After crossing the river to the west of *Ásá-purí*, there is a high beach along the sea shore, level all the way, considerably higher than the adjacent country. It consists of hard sand ; its breadth, which is considerable in many places, is very irregular ; and the whole is covered with a shrub-like plant called *Luní* in that country, and *Jhau* on the banks of the Ganges.* Six cos from the river of *Ásá-purí*, is a small reservoir under an Indian fig tree, and sometimes there are a few wretched huts : hence to another arm of the Indus five cos : it is navigable, and a short cos beyond, is the town of *Lác'h-pat-bandar*, or the port of *Lác'h-pati* the grandfather of the present *Rájá* of *Cach'ha*, who built this place, between fifty and sixty years ago. There was a small village before, the name of which is already lost, at least to me. As it was a favourite place of his, he granted to it the exclusive privileges of a *Pátt'aní* town. *Pát* in Hindi signifies the breadth of any thing, of a river, of a gulf. From *Pát*, they have made on the banks of the Indus *Pátt'an*, in a derivative form ; and there it signifies a Ferry ; and from *Pátt'an* comes *Pátt'aní*, bestowed on towns and villages, where is a famous, and much frequented *Pátt'an* or Ferry. The towns on the sea shore, which have the exclusive privilege of a *Pátt'aní* place, have packet boats, which at stated times, regulated by the monsoons, sail to various harbours, either with passengers, or goods.

Cráchí or *Rámbág* is the *Pátt'aní* of the *Vali*, or Nawab of Sind. *Leheri-bandar* was so formerly ; and other places at various periods : hence in the old Portuguese maps is a town, either in, or near the Delta of the Indus, called *Pateniz*. For this information I am indebted to my old friend Mauluvi Sáleh, a native of *Calát*, and *Tasildar* of *Thátt'há* under *Golam Mohammad Abásí* about 50 years ago ; and is now living at *Benares*, being above 80 years of age. This denomination is of great antiquity ; for it seems, from a passage of *Diodorus the Sicilian*, that *Alexander* built a town in the Delta, which was called *Potana* probably *Bastáh-Bandar* ; and from the particulars, there is no

* The *Tamarix indica* according to Dr. Hunter.

doubt, but it was intended to be a *Pátt'antí* town to certain islands, and harbours in these seas.

From *Lác'hpat-Bandar* to *Bastáh-Bandar*, on the sea shore, seven cos : close to *Bastáh*, and to the east of it, is a large arm of the Indus, above one mile broad, which leads to a spacious lake of a very irregular shape. Its length N. W., and S. E. is said to be about 12 cos, and its breadth in a S. W., and N. E. direction, about 7 cos. During seven months in the year, there is little water in it ; and its limits are then much reduced ; but during five months, including the time of the inundation in April, May, and June, and also during part of the rains, it is full, being fed by numerous branches of the Indus, chiefly from the N. E. In the accounts by natives, it is stated, that it is full, or nearly so, during the months of *Vaisákha*, *Jaish'tha*, *'Ashárha*, *'Srávaṇa*, and *Bhádra* ; and that there is little water in it during the months of *'As'wina*, *Kártika*, *Agraháyana*, *Paus'a*, *Múgha*, *Phálguna*, and *Chaitra*. In the year 1809, the first of *Vaisákha* answered to the 23rd of April ; and the last of *Bhádra* to the 26th of September, at least at Benares : at other places it is earlier. From that circumstance it is called *Ran*, and *Rain* ; which in the language of that country implies a tract of ground, which is under water during part of the year, and remains dry all the rest. Abul Fazil, in his account of Gurjarát, mentions a vast extent of ground towards the Puddar, which is yearly inundated, and is also called *Ran*, probably from the Sanskrit *Ar'na*, water. During the dry season, it is even in the narrowest part nearly three cos broad. There are boats ready at *Bastáh*, with ferry passengers. They go in a N. E. direction, following the bending of the shore to the right : the passengers are landed near a Fakir's hermitage, with a few huts, and then they proceed by land, in a S. E. direction, to a place opposite *Lác'hpat-Bandar*, and in some measure a suburb to it, where the usual provisions and refreshments, which the country affords, are to be met with. This is obviously the lake *Eirinos* of Arrian, called *Saronitis*, or rather *Saronis*, by the younger Plutarch ; and *Bastáh* is the *Seuhe-ri-bandar* of Otter, which should be written *Sehráhi-bandar*, being in the country of the *Sehráhis*. In the same manner Láheri-bandar is *Lehráhi-bandar*, being in the country of the *Lehráhis*. *Bastáh* is a considerable place for the country : it has a fort, with a few bad guns without carriages. It belongs to the *Vali* of Sind, whose country ends

there; and on the other side of the river, begins that of *Cach'ha*. From *Bastáh* to *Ghain'deh*, *Ghaï'deh*, or *Ghaireh*, there are eight cos. Three cos from *Bastáh* is a small reservoir of water. *Ghaï'deh* is near the confluence of the main branch of the Indus with the sea; and about half a mile from it, and to the east, is the village. The Indus is called here, in the dialect of *Cach'ha*, *Mehrán*, and *Mehrüwan*, which last is to be pronounced as a dissyllable.

From *Ghaï'deh* to *Pokhyári*, an insignificant village, there are ten cos. It is on the western side of the Indus, which you cross. A little to the north of *Pokhyári*, the *Mehrán* sends a branch into the lake *Eirinos*, and through it Alexander descended with his fleet. It is called the *Pokhyári* river, even under *Bastáh*.

From *Pokhyári* to *Sháh-bandar*, they reckon 27 cos, and in all from *Ghaï'deh* 31; when you are obliged to cross the Indus three times. *Pokhyári* consists only of a few wretched huts: hence to *Rádi* or *Réri*, another place equally wretched, 8 or 9 cos. As the western bank of the Indus is overgrown with the *Luni* shrub, and uninhabited, they cross the Indus, and go to *Sindhú*, a small village inhabited by Mussulmans, and 7 or 8 cos from *Rádi*, and on the eastern bank of the *Mehrán*. Hence 8 or 9 cos, there is another village called *Balochara*, inhabited by Mussulmans likewise; and going along the banks of the river for 8 cos, they re-cross it, and land at a place called the Nawáb's Chokey, and *Ghát*; and go three cos by land, to *Sháh-bandar*.

The course of the route from *Ghaireh* to this place, is said to be N. and S., or nearly so. There are boats at *Pokhyári*, and those, who can afford to pay for them, go in one tide to the above Chokey, or Guard-house.

From *Bastáh*, you may go to *Sháh-bandar* by the way of '*Abád*, leaving *Ghaï'deh* several miles to the left. '*Abád* is two, or three cos to the west of the main branch of the Indus, and two long days march from *Sháh-bandar*. It is called *Iebath* in the life of Mahmud Ghaznevi, who took it. Abulfeda calls it *Ebiath*, and also *Mow*, which in Hindi, signifies an inferior staple town, for various articles of trade: but this difference is often disregarded.

Another considerable town in the Delta, called *Cacrláh* or *Cacarháleh*, is of late frequented by pilgrims, owing to a rich Hindu, who, sometime ago, built a temple there, with a large house for himself, and

a *Dharma-sálá*, or Alms-house, for the reception of pilgrims, who are entertained there, and dismissed with alms. This circumstance has brought this place to our knowledge. It is situated between two arms of a branch of the Indus, called *Mana-muc'há*, and which springs from the western arm of the Indus, three cos below *Sháh-bandar*. I suspect this river to be the *Hijamany* of Major Rennel; for *Tjya-maná* signifies the *saṅgama*, or confluence of the river *Mana* with the sea. To the north of *Cacar-háleh*, it divides into two arms, which, a few cos below, fall into the sea. Opposite to the town, the bed of the *Mana-muc'há* is very broad, and there are extensive fisheries. The water is brackish; but the inhabitants dig wells, the water of which is good; but remains so only a few days. From *Cacar-háleh* to *Sháh-bandar*, they reckon 31 cos by water; 28 up the *Mana-muc'há*, and three up the western branch of the Indus. There you land at a place called *Rájghát*, opposite to *Sháh-bandar*, where there is a large *Ma't*, or convent of *Nánac-panthis*. Mauluvi Saleh informs me, that *Cacar-háleh* is the name of one of the four Sircars of the province of *Tha't'há*, including the Delta, as far eastward, as *Bastáh*. In the *Ayin-Aceberi* it is called *Chucur-háleh*.

Sháh-bandar may be considered now as the capital of the country on account of its size, trade, and because many of the first officers of government reside there.

Golám Mohammad 'Abbási took it from a Hindu prince of the *Sohdá*, or *Sogdá* tribe, and made great many improvements. It is situated at the head of the Delta, where, at the point of division, is the place of *Bábá*, or *Báwá-Pethá*, or our lord *Péthá*. It seems, that it was formerly an island, and during the rains, it is even now nearly so: but the bed of the channel, which separated it from the Delta, is almost filled up; yet it remains a morass to this day, over which the inhabitants have made one, or two bridges, as they call them; but which are a sort of causeway made of hurdles, fascines and clay, with a few small openings to drain off the water. This place is called by Hindus *Nagar-Pat'há*, and *Nagar-Tath'há*; but not to be confounded with *Sindhu-'Tha'tt'há*, which is our *Tátá*. It is so called, from a deity, or holy man, called *Pathá*, with the title of *Bábá*, or rather *Báwá*, the lord *Pát'há*, and by Mussulmans not improperly rendered *Pír-Pat'há*; and whom they have converted into a Saint of their

own. *Báwá* is the same with *Bau*, a title well known among the Mahrát'tás, and which, according to a learned pandit of that country, is derived from the obsolete root *Bu*, lord, master; and which in Persian signifies father only implicitly, in the same manner as we use the words *Sire* and *grand Sire*. From *Bu* comes *Bau*, and *Báwá* a lord, and *Báwí*, or *Bái* a lady, in the Máhrát'tá language. *Báwá*, and *Bau* are used in that sense in the Burman language, in which they call the emperor of China *Odey-Boá*, or the lord and king of the east. The holy *Tat'há*, or *Pát'há* is also called *Aghár-Báwá*, or *Bábá*, and at Multan *Bábá-Pit'hu*. The three first denominations in Hindi, imply power, greatness and skill. This is the town of *Tátáh*, asserted by Abul Fazil to be called also *Debiel*, and *Alore*, in some copies Alwar. In the Persian Tables, cited by Major Rennel, in his first Memoir, it is equally asserted that *Táthá*, is the same with *Daibul*. This *Táthá* is of course different from the *Tatah* of our maps, the true name of which is 'Tha't'thá, and Otter says, that the head of the Delta is two days by water, below *Nagar-Thátthá*, or *Thatthi*, which he spells *Tschatchi*. The denomination of *Debiel*, *Dibul* seems to be unknown in that country, except perhaps to sea-faring people, who sometimes bestow on places, names unknown to those who live further inland.*

Capt. Hamilton is entirely mistaken, when he says that *Divelli*, in the language of that country, signifies the seven mouths. It is by no means the case with that language, nor, I believe, with any other in India. They use, on the banks of the Indus, the same numerals as in Hindi, except the two first, *Berc* or *Verc* one, and *Bá*, *vá*, *bé*, or *vé* two. The first is the Hindi *Eic*, with the addition of the letter R. Thus in Icelandic, instead of *eim*, one, they say *eirn*. *Ba*, *bé*, or *vé*, is now obsolete, both in Sanskrit, and Hindi: but it is the root of *Vincshati*, or *Vinc'hati* in Sanskrit, and of *Bis* in Hindi, which signify twenty. It is the root in Latin of *bis* twice, and of *viginti*, also of *ambo* both.

Debil, *Divul*, or *Diul* seems to signify the island (*Div*) of *Yala*, or *Hálleh*, the meaning of which is unknown to me; though often found in composition in the names of places in that country, and all over the peninsula, as *Hálleh-cundi*, on the Indus; *Cacar-hálleh* in the Delta;

* I never saw Otter's works: but an extract was sent from Europe to the late Father Tieffenthaler, who gave it to me.

Yella-mundi, *Yellogoody*, *Yále*, *Yáleswara*, &c. Diodorus calls it *Yálá*, and says, that it was situated in an island. Yet, I think, this etymology inadmissible, as I do not think it idiomatical to say *Div-Yálá*; it should be *Yála-díva*, and I cannot find a single instance in which *Div*, or *Dib* is prefixed in composition. I suppose it derived from *Dev-Yálá*, the divine *Yálá*, or *Hálleh*, and in this country, and in Gurjerat they say *Dé*, or *Dí* for *Déva*; and thus *Dí-Yála*, or *Diul*.

In this manner the town *Deva-Ranfálá*, or *Rupálá* in the desert, to the east of Bacar on the Indus, is generally called now *Di-Rawel*. Our *Yálá* is certainly a most sacred place, being dedicated to the divine *Pat'há*, who is constantly attended by 900,000 *Ríshis*, or holy men. *Pathálá* is a regular derivative form, from *Pat'há*, as *Bengálá* from *Banga*: and from it our ancient travellers and writers made *Pátálá*, and even *Pathalia*. *Hállá-wárá* is another name for this place, generally contracted into *Alowr*, or *Alore*, and mentioned by Abul Fazil: but it is now unknown to the inhabitants of that country. *Yail-díva*, or *Yála-díva*, in the Malabar dialect, signifies the seven islands, but it would not be idiomatical to say with Capt. Hamilton *Div-yail*, which he renders by the seven mouths.

Our ancient navigators, and travellers, and even eastern writers, do not agree about its situation; some placing it at Láheri-bandar others at Cránci: and it appears to me, that at whatever emporium merchants were allowed to land, and dispose of their goods, on this they indifferently bestowed the name of *Debil*. Merchants were not always allowed to come up to the Metropolis, or go too far inland, for political reasons.

Mauluvi Sáleh mentioned to me a similar instance, when he was at Thatthá. El Eldrissi says, that *Dabil* was three days from the sea, and as many from Mansaurah (the lower) now Thatthá, which was three days from Firuza, or Nirun now Nehrun, or Hyderabad, on the west bank of the Indus. It was also two days from Manhabere, Manhawer, or Minnagara, on the side of which is a place of worship called *Pír-Patthá*, and one day's march south of *Táttháh*; it is called *Bráhmínábád* by Abul Fazil; and *Shehr-Baráhemá* by Persian writers,* or the town of *Bráhmans*: it is the *Ráhemí* of Danville, and it is still a *purgunnah* called *Berhampur*, for *Bráhmanpura*, at least I so sup-

* See D'Herbelot, voc. Cambait.

pose. It is called Bachmanu, for Brachmanu, by Chrysococas : thus in India they say Bahman, for Bráhmaṇ. His Mansaurah is the Tátáh of our maps, and Danville's Tátáh is Sháh-bandar ; and here he is right.

The town of Pethá, or Táthá is situated in the Delta, on the western branch of the Indus, and since the improvements made by Gólám Mohammad, it is now only between two or three miles from the extreme point of the Delta ; but the old town was two cos and half, or five miles from it. There is no arm of the Indus to the north of the other Thátthá, as I am assured by Mauluvi Sáleh, who resided there seven or eight years in a public capacity. D'Herbelot says, that Deibul (or Táthá) was besieged in vain by Solimán, the second king of Persia ; but I find no such a king in the history of that country.

In the latter end of the reign of Akbar, it was besieged by his general Khán-khánán with a numerous army ; the siege lasted six months ; but after a most obstinate resistance it was taken. This town could not have been the present Thátthá, which could not have held out so long : but it was Táthá, or Debiel, which was so strong, on account of its insular situation. It was denominated Sháh-bandar, or the royal emporium, in honor of Akbar. In some old Portuguese maps, it is simply called Bandel for Bandar, and in Father Mouserrat's map of India it is placed, exactly half way, between the mouth of the western branch of the Indus and Thátthá. The denomination of Sháh-bandar seems to be unknown to Hindu pilgrims, and is used only by Mussulmans ; who never use that of Nagar-Táthá, except when applied to Thátthá.

The pilgrims now prepare themselves to go through a dreadful country, belonging to a mighty goddess, always ready to befriend mankind, but at the same time highly irascible, and who, for the most trifling offence, will inflict on the unfortunate culprit, either an incurable leprosy, or turn him into stone, or drive him into madness, by various and uncouth sounds, and strange noises. Pilgrims are however so much upon their guard, that no such accident ever happens, and these noises are not always to be heard ; and then they are very faint. They must not bathe all the way, nor wash their faces, or hands, rinse their mouths, or even wash certain parts, as usual on particular occasions. This tremendous deity resides at *Hīngláj*, about seven or

eight miles to the eastward of cape *Mu'dán*, or *Moran*. They now hire guides, who are well acquainted with the religious places on the road, the rites to be performed at each place, and the legends relating to them, which are both numerous, and equally ridiculous. There are two routes from *Sháh-bandar* to *Hĩngláj*; one called the *nine* days route, because they are exactly that number of days on the road; the other, for a similar reason, is denominated the *thirteen* days route. Pilgrims, however, are not always so exact, and they will sometimes take two or three days more; and this depends upon the quantity of provisions, they are either able, or willing to carry on their backs.

As far as *Sonémchyáni*, the two routes are the same: and from that place to *Hĩngláj* they reckon three roads; one by sea, seldom frequented; the other along the sea shore; and the third is more inland; and this last takes up seven days on foot; but they generally hire camels, and perform it in five days. When they go along the sea shore, they cross the outer mouth of the *Háb*, at *Sonémchyáni*, and as no provisions can be procured on the road, they must take some at the last place, both for going, and coming back; and carry the whole on their backs. This is of course, the most difficult, and besides you must travel on foot: pilgrims who travel this way are very numerous indeed. Those, who want either zeal, or bodily strength, go the thirteen days' route, which is very expensive, as it is performed on camels; and I lament, that I never was able to meet with any body, who had travelled that way. Several intelligent and learned pilgrims have repeatedly told me, that I had no occasion to regret it; as their route affords very little geographical information: for it does not pass through any town, or place of note. They had seen several, who had gone that way, and who informed them, that they cross the *Háb* at the first fordable place, where there are only a few wretched huts. They then ascend the heights, and go to *Hĩngláj*, leaving *C'hará-Beileh*, a great way to the right. Some descend through what is called the Elephant's neck, and send their camels to *Hĩngláj*, performing the rest of the journey on foot. The only thing remarkable on the road, are the tombs of the old *Jogi*, or *Durveish*, and of his disciple, of whom I shall hereafter take some notice.

All along that route, but more particularly between *Sháh-bandar*, and cape *Monz*, there are great many places of worship, dedicated to

various deities. There are however no buildings, and there are nothing else, but trees of the Bábul, or Acacia, Tamarind, and Palása kind, stones, springs, small pools, hillocks, &c.; and of which I shall seldom take any notice. Our pilgrims being ready, and having taken provisions, to last them as far as Rámbág, which they reach in three days they cross the Indus about two cos below Sháh-bandar; and about a gun-shot from the river, is a small pool dedicated to Sínha-Bharání-deví: a little further is a small river, which runs into the Indus: three cos further is another small one, which runs also into it. It is called *Cauryá*, the lazy, or slow moving river; like the *Coorya-Gaṅgá*, or Jellinghi in Bengal. This, with the former stream, are supposed to be branches of an arm of the Indus, which springs from the main stream, near Peer-Pathá, about a day's march to the south or S. S. W. of Thatthá. There are a few wretched huts, on both sides of the *Cauryá* river: and about two miles from it, or six cos from Sháh-bandar, the road goes over a low, but extensive hill called *Támra-thileh*, or the mountain of copper; because it contains quarries of a yellowish stone, like brass, and in some places, rather inclining to a reddish hue like copper. *Támra* implies both brass and copper, as in French they say, red and yellow copper. This mountain is mentioned by Abul Fazil in his account of Sircar Tatah. Besides the quarries, this mountain abounds with small pebbles or *calculi*, about the size of the larger sort of millet, of a whitish crystalline matter, debased with earths of various kinds, and which in their rough state, look like corn coarsely ground, or grit, in Hindi *Dardura*. They are of course supposed to be the remains of Deví's cookery, who, for twelve years, dressed food there every day for her consort Mahá-Deva; but which she constantly threw away at night, seeing that he did not return. These are polished, perforated, and filed on a string by Mussulmans at Sháh-bandar, and then sold to pilgrims, at the rate of one thousand to a rupee, and from their faint yellowish colour, they are called *Támra*. These small gems, or pebbles, are mentioned by Pliny, who bestows upon them the name of *Zoronisios*. According to him, they are found in the bed of the Indus, and were highly valued by the *Magi*, or religious people in India.* They are found in small quantities in the bed of the river; but these are neglected, as the adjacent quarries afford an

*Pliny, B. 37th C. 10th.

inexhaustible treasure of them; and they are still highly valued by pilgrims. *Zoronisios*, or *Dzoronisios* is from the Sanskrit *Jaran'asya*, pronounced in Bengal, and written by several Sanskrit scholars, *Dzoron'osyo*. *Jaran'a*, and its derivative, implying sort of food, ready dressed; also its remains. In the Tamuli dialect, such pebbles are called *Paruccai-callu*, or stones looking like *Paruccai*, or grains of boiled rice and millet. The pilgrims come afterwards, to a small stream of fresh water, beyond which, at the distance of about a mile, is a small village called *Gáreh*, which they reckon fifteen cos from the *ghát*, and seventeen from *Sháh-bandar*, or 32 British miles. Hence to *Crimáji*, a small village consisting only of five or six wretched huts, four cos: here there are two roads; that to the right leads to *Rám-bág*, and that to the left to *Láheri-bandar*, about four cos, in all 25 cos, or 47.5 British miles from *Tat'há*; but some considerable allowance is to be made for the windings of the road, which are here considerable, and will reduce the whole distance to 40 miles. The road from *Tat'há* to *Láheri-bandar* lies on the right of the western branch of the Indus, the other side being impracticable. Of course it does not follow, that *Láheri-bandar* is on the right side of that branch. However, I believe it to be so, as it is declared in the *Ayin-Acberi* to be a purgunnah belonging to *Sirear Tatah* of our maps, and of course it is out of the Delta. I never saw any body, that had been at *Laheri-bandar*, except *Maulvi Sáleh*; who visited it about 50 years ago; but, as he says, never saw it, as he arrived after dark, and left it before day light. He remembers very well crossing a river close to it; but cannot recollect on which side of it the town is situated. From *Láheri-bandar* to *Rám-bág*, there are 13 cos, or 25 miles. By water, it is first five sea leagues down the river; thence, along the sea shore, ten nautical miles, in all 28 British miles. By land little allowance is to be made, as the country is flat, and level, and the 25 miles may be reduced to 23. About 14 or 15 miles from *Crimáji*, they come to a desert place, and about a musket-shot to the right, is a small river called *Matsar*, dry at that season of the year; but there was a well of good water in its bed. It falls into the bay of *Cráchí*, and here the guides inform the pilgrims, that the sea is very near. Between this place, and *Crimáji*, there are two *C'haris*, *C'haricás*, or *Creeks*, into which the tide flows. Hence ten, or eleven miles to *Rám-bág*: they first cross a *C'hari*, which comes

from the Indus, and into which the tide flows ; for such is the meaning of *C'harí* : about half-way, a few huts, and a well ; and within two or three miles from *Rám-bág* is another *C'hari* ; but, whether there is an inland communication by water, through these creeks, with the western branch of the Indus, is unknown to the pilgrims, whom I have consulted. In this country, they have no itinerary measures, and the word *cos* is unknown : they compute their rate of travelling by *pahars*, or *prahars*, as they call them, and their parts, or ghurries. When the days and nights are equal, the *prahara* is of three hours. It is of course difficult to adjust the particulars of their routes ; but as this road has been travelled by pilgrims for ages, and perhaps as early as the times of Alexander ; they have, through long experience, reduced, and computed the distances, between the principal places on the road, into *cos*, and which I find to be pretty accurate. Some unavoidable disagreements with regard to the particulars are, of course, immaterial, when the grand outlines are ascertained. In the Table of the distances through India in Persian, and ascribed in a MSS. lately in my possession, to Muhammad Cábuesh Sháhzádeh or prince royal, born A. H. 1077, A. D. 1666⁹, the distances are given both in Royal, and Rismi, or small *cos* ; and it is there declared, that two Royal *cos* are equal to three and half Rismi ; thus the Royal *cos* is equal to two British miles and five furlongs : the common *cos* of India, to one mile and seven furlongs ; and the Rismi to one mile and a half. There the distances are given, in general, in Royal *cos*, or at least intended as such, from actual measurement, it is supposed, but in some cases only in common, or Rismi *cos* from report. Thus from Láheri-bandar to Bandasyl, there are 994 Royal *cos*, 1740 Rismi : but the particulars exhibit 30 *cos* from Silhet to Bonasyl, and these are certainly Rismi. This is also the case with Láheri-bandar, which is reckoned 30 *cos* from Tathá, are Rismi, equal to 55 British miles. The distance from Tat'há to Silhet is 934 Royal *cos*, to which add twice 30, and it gives 994 *cos*. The Mussulmans, and particularly the officers of government in that country, formerly computed the distance from Tathá to Rám-bág to be 30 Royal *cos*, or 78 British miles ; and this computation is still used by many in that country. There at *Rám-bág* is a *C'harí*, or Creek, which joins the *Matsar*, and thence goes into the bay of Cránchí. The *C'harí* is on the right of the road, and the fort is about a *cos* from it

inland, and *Cráncht* is upon the Creek, about half a cos from the bay ; though the greatest part of the houses are now round the fort. Half a cos to the S. W. of the Fort, toward the bay, there is a small lake, or large pond, in which there are crocodiles, of which wonderful stories are related. Ráma-chandra remained there twelve years with Lakshma'na, Hanumána, and Sitá, and made a garden, called after him Rám-bág. In the bay there are several small rocky islets, three of which are particularly noticed by pilgrims : the largest is called *Ráma-Zaroca*, or the observatory, or watching place of Ráma-Chandra, who erected a *Zarocá* upon it. *Jaroc'há*, or rather *Dzeroc'há*, in Sanskrit Jálaca, is a latticed window, for the sake of observing, what is going on abroad ; also a peeping hole. By the *Zaroc'hús* of Ráma, Laeshma'na, &c., the pilgrims understand certain mounds, or raised platforms, either natural or artificial, for the above purpose, and in this sense it is synonymous with *Seirungah* in Persian. According to Father Monserrat, the largest of these islets was called *Camelo* by the Portuguese ; and the three principal ones *Monaras*, or the turrets, from the Arabic *Minára*, and opposite to them is a small branch of the Indus. He does not say positively, that he had been there himself ; but I believe that this was the case. The several passages relating to this place stand thus, *Canthi Naustathmus sorgi douro das "Monaras, statio pro turribus dicitur juxta Monaras. Canthi Naustathmus stationi respondet scopulorum, qui pro Indi hostio eminent, et vulgo dicitur Monaras, h. (hoc est) turres vel pyramides, ab Arabibus accepto vocabulo.*

"Extra ostium Indi insulæ Chrysé, et Argyré—necubi apparent. Eminent tamen, *nostrá memoriá*, deserta quædam insula et perexigua, quam vocitant *Cameli*, ex adverso hostii amnis : sed ea saxum ingens, exors auri argeutique." Here the words *nostrá memoriá* are, in my opinion, to be rendered, *I recollect*, &c., and imply, that he had been there. The original MS. is in my possession.

The bay was called Rio de Pilotes, or the Pilot river by the Portuguese, who had always some of them stationed there, in order to conduct their ships over the *bars* of the Indus, and their ships remained there at an anchor, waiting for a proper opportunity, and it is called for that reason *Naustathmus* by Ptolemy. This place is styled the harbour of *Hermes* by Haython the Armenian, who mistakes

Ráma for Hermes an ancient sage. It is designated also by the appellation of the fort of *Ram*, in the treaties of peace concluded between Nádir Sháh, and the emperor of India; and by that of Rámgar, *Coyár*, or Couhbár in the Ayin-Acberi. Our pilgrims, having visited in a boat the *Zerocá* of Rám, cross over to the other side of the Bay, and after a march of eight or nine *cos*, about 15 or 17 miles, they arrive on the banks of the river *Háb*, which they cross, dress their food, and sleep there. There is about one foot of water in it, during the dry season: its bed is broad, and it is a pretty large river during the rains. Its bed is full of large rounded stones called *Gallets* by Buffon. Its current is rapid, and makes a considerable noise among the stones. It was called *Ab-Indos* by the Portuguese, and in some maps *Obandos*, or the Indian *Háb*; and by Father Monserrat *Ab Indorum rivus* in Latin. The country between Rám-bág, and this river is full of stones, which were formerly men, and who will resume their original shapes, at the end of the world. On the fourth day, at night the pilgrims sleep on the banks of the *Háb*, and, early on the fifth, resume their march. From this river to *Sónemeyání*, they reckon 20 *cos*, or 38 British miles. The first part of the route is intricate, and having no fixed points, they never agree about the particulars, till they come to a place called *Rámpranala*, or *Rámprabáh*, which is acknowledged to be 12 *cos*, or 23 miles from *Sónemeyání*: these deducted, leave 8 *cos*, or 15 miles for the distance from the Indian *Háb* to *Rámprabáh*. To the West of the *Háb* is a range of hills, running parallel to it, and very close to the river opposite to the ford, there is an opening in the range, which, though narrow, affords an easy passage; the range to the left runs toward the sea, and the distance is supposed to be five or six *cos*, and ends at Cape *Mun'd*, a name unknown to our travellers. The ford and pass are guarded by a form of *S'iva* called *Jhangár*, or *Thangár-Bhairava*, or the tremendous one, maker of *jungles* and *twangs*, from the Sanskrit *Jhah* or *Jhanyha*, and *Thah*, in the spoken dialects *Jhang*, and *Thang*; both are expressive of the *twang* of a bow-string. These are heard only, when he is not irritated, otherwise these sounds are such, that people will either die through fear, or be driven to madness: and here begins the country of *Jhang*, or noises. This tremendous deity has a seat, or station in the bed of the river, and also in the

pass, which they call his *Chokey*, or watch-house. His Sanskrit name in the Purāṇas is *Darddures'wara*, or our lord in the shape of a Bull-Frog. The pass is about two miles long, and at some distance from it to the right, is a small hill called *Angákeryá*, or of the loaves. There was the oven of *Locá-mátá*, or the mother of mankind, in which she used to bake bread, for her numerous offspring: but once through her indiscretion, all her loaves were turned into stones, which now lie scattered all over the country. They are circular, and about five or six inches in diameter, and *Angákeryá* in Hindi, is a round loaf of that size, now very seldom used, at least in this part of the country. They are made of wheat: but in the Scanda-purāṇa it appears, that all these stones, or perhaps part of them only, were originally the fruit of the Bilva-tree, and indeed they look very much like it, both in size, and colour. To the left of the road, at the distance of about a mile and a half, is the *well* of our mother, but seldom visited by pilgrims. Near this hillock, resides a form of *S'iva* under the name of *Angákeryá-Bhairava*, who defends the pass, and pours showers of these stones upon the assailants, whilst *Jhangár* or *Jhancára* frightens them with dreadful noises. They both defended it against Ráma-chandra, and his numerous army, for twelve years, when they were forced to give way.

A little further, at the bottom of the declivity, begins the dry bed of a river, divided into four very distinct portions, by three depressions, where this dry bed is hardly visible. The first part is very little below the surface of the country, and full of round stones, upon which pilgrims are directed to lay themselves down, and to perform *Lo'tan*, that is to say, to tumble, or roll themselves smartly three times in honor of the mother of mankind. Hence it is called the river *Lo'tan*. This dry bed was excavated by *Ráma-chandra*, and his army, after they had gone through the pass, in order to obtain water; but in vain, owing to the displeasure of *Hingulá-Deví*. The next portion of it after the *Lo'tan* was made by Hanumán; hence it is called his canal *nala*, *váha* or *báh*. The third is the work of *Lacshmaṇ'a*, and is equally denominated after him. There is his seat, or watching place, called his *Zerocá*, or *Seirungáh*; and by digging into the bed, good water is obtained: it is about a mile from the sea. Then comes the canal of *Ráma*, which is the largest and deepest; hence it is called

his *pra-nala* or *prabáh*, *Ráma-nala*, or *Ráma-prabáh*. There is his *Zerocá*, or *Seirungáh* also, and fine water is obtained by digging into its bed. This place is about half a mile from the sea, and then the bed trends toward the N. E. to the right of the road. *Rám-prabáh* is about fifteen miles from the *Háb*, and about twenty-three from *Sóne-meyáni*. The three last portions of this dry bed, are about 400 feet broad, and about 30 deep: the banks, particularly on the Eastern side, are almost perpendicular, and higher in general on that side, toward the hills; and it seems to have been formerly a branch of the *Háb*, or river *Arbis*. According to the *Mahá-Bhárat*, these were excavated by the famous *Vasu-rájá*.

The country is a perfect desert, with low trees, and a few thickets of underwood, here and there. About three cos, or six miles from *Rám-prabáh*, and *Ráma's Seirungáh*, is *Maica-Coiñh*, or *Coiñh-Ambá* in Hindi, the well of our mother. This was produced by her, out of mere compassion for *Ráma-chandra*, and his army, after their fruitless attempts to obtain water, by making these deep canals. There the pilgrims rest themselves during the night of the fifth day. Early in the morning they resume their march, and after travelling six cos, or eleven miles, they arrive between ten and eleven o'clock, on the banks of a feeble stream. There the level of the country sinks suddenly, forming, as it were, a steep and bold shore, which begins at the sea on the left, and trends toward the N. E.; forming a long curve to the east of the bay of the *Háb*. This bank or shore, is about 40 feet high, and there has been cut through it a *ghát* or pass; and the earth, that was thrown up on both sides, was made into the shape of two regular little conical mounds, one on each side. A few hundred yards, from this descent, is a small stream in some places not six inches deep, which runs toward the left into the sea, which is little more than a mile distant as far as they could judge. From the top of the *ghát* there is a full view of the sea, and of the place where the stream falls into it, and there was the harbour of *Morontobara*, which no longer exists, but the canal, which led from it into the bay remains still, though no longer navigable.

After a march of three cos, or six miles nearly, they arrive at *Sóne-meyáni*, between one and two o'clock; and having taken some refreshments, and a little rest, they embark: and if the wind be favourable, they

go directly to the opposite side of the outer mouth of the *Háb* ; and the distance is reckoned about three cos, or six miles. Should the wind prove unfavourable, they take a circuit through the bay, availing themselves of the remaining part of the tide of flood, and with the tide of ebb they come down to the usual landing place. This compass is about seven cos or thirteen miles.

Sónemeyání in an island, or peninsula, or rather both, if I may be allowed the expression, is situated on the Northern side of it, toward the bay to the Eastward, and at some distance from the outer mouth of the *Háb*. It is a small wretched place, chiefly inhabited by Musalmans. The trees, and groves, which Nearchus saw there, no longer exist: tolerably good water is obtained from wells, which however must be digged afresh frequently. Its ancient, and extensive fisheries are now much neglected: and from them it is asserted, that its name *Sónemeyání*, or the golden fisheries, is derived from their immense returns.

In that case, its name should be spelt *Són-mahyání*; for *mahí* in that country, and in Persian also, is fish; *sona* is the vulgar pronunciation of the Sanskrit *Swarna* gold. It is called also *Sónyánpurí*, the golden town,* and *Sanawain* by El Edrissi.† The latter is for *Sónyání*, or *Sónyain*, which are derivative forms in the vulgar dialects. El Edrissi says, that in Kirmán, there are also *Sanauain* and *Mascán*, which last is near *Kircaian* towards the source of the *Háb*. In the Portuguese map of that country, in the travels of Z. H. Linschot, the bay at the mouth of the *Il-Mend* or *Háb* with the peninsula, and an arm of the river toward the west, are remarkably well delineated, and the peninsula is called with propriety an island. Its name *Zarnaque* seems to be from *Swarnaca*, the golden island.

The real name of *Són-mahyání* is *Pher*, or *Phor-mohána*, or the mouth of the river *Phór* or *Phér*, another name for the *Háb*, from a town of that name on its banks. It is called *Fermoun* by Ebn-Haucal, and *Berment* in some old Portuguese maps, as in that of the Persian empire, in Ortelius's Atlas. On the opposite side of the *Háb*, in the above map, is a place called *Beccar*. Its true name is *Macara*, and a little further west, is *Mette*, for *Mátá*, or *Hĩngláj-deví*.

* See Asiat. Researches, Vol. V. p. 43.

† See El Edrissi, pp. 51 and 59.

To the north of *Berment*, in the above map, is *Adbil* or *Azbil*, a place of some celebrity, because the sect of the *Ali-Iláhiyáhs* is supposed to have made its appearance, and prevailed there for a long time. It is called *Abil* by El Edrissi; and is the same, I believe, with the *Azend* of Ebn Haucal; and the true reading should be *Azbil*. The pilgrims having taken provisions (a little meal only) cross the mouth of the bay, and if the weather be favourable, they land at a place called *Macara*, W. N. W. of *Són-mahyání*, and about six miles from it. This is not to be understood of the breadth of the outer mouth of the *Háb*, which, I suppose to be about a mile and half broad. The boats, in which they embark, are generally near the eastern part of the town, and from this place, the six miles are to be reckoned. They land, where the *surf*, from the sea, ends. It used formerly to spread desolation all over the bay; but a holy man, finding the rib of an immense whale, lying dead on the shore, fixed it into the ground, and forbade the *surf* to go beyond it in future. It lies horizontally nearly, and one extremity is partly buried in the ground, which is very stiff; but the other is wholly buried into it. From this circumstance, this spot is called the place of the *Mach'hicá-Har*, or fish bone; *Macara-Hár*, or bone of the Macara, Magar, or Whale, or simply *Macar*. It is called *Beccar* in the Portuguese maps, *Pagálá* by Nearchus, and *Pegadæ* by Philostratus. Whether these names were originally the same, or not, is immaterial, as they point to the same place. Philostratus in speaking of *Pegáda* says, "Here is the country of copper (or *Támra*) and also that of gold (*Swarna*, or *Soná*)."

Our pilgrims, as soon as landed, worship the *Macar's* bone; and set off immediately, marching the whole night and part of the next day; when about three o'clock, they arrive on the banks of the western branch of the *Háb*, or river *Phór* or *Phér*. The country is level, their course west nearly, and the distance is 15 cos, or 28.5 British miles. There on the banks of the *Háb*, they take a frugal repast, and spend the night of the seventh.

Ten, or eleven cos from the whale bone, are the wells of '*Acráh*. *Cupa* a well, *Cupán* wells in Sanskrit, and if the name of a place *Cupana*: in the spoken dialects *Cúwañh* a well, *Cúñh* a small well; and as the wells of '*Acráh* are small ones, they are called '*Acra-ca-Cúñh*. Their waters were formerly bitter, but a holy man, by putting

into them branches of the *Múlár*, or *A'cráh* tree, made them fresh, and palatable: and they are a little more than a mile from the sea. This tree is called in Sanskrit *Acrá* the name of the Sun, and it is the cotton tree.

About a mile to the east of the *Háb*, is a place called *Lakeryá-co'ta* or rather *Lakeryá-cú'ta*, the heap of wood; because every pilgrim leaves there a stick, for the benefit of *Ráma-chandra*, and his numerous army; when the former, in the character of *Calki-avatára*, will go, and encounter *Bali*, the *Hindi Anti-christ*; and this will enable him to dress food for his troops, in this dreary place. All the treasures, which are buried in deep vaults in *Nepál*, and other districts in the mountains of *Himálaya*, and to the north of them, will be opened, and with these *Ráma-chandra* will pay his troops, procure grain, &c. Without these wise precautions, *Anti-christ* might prevail. Those who hoard up these treasures, it is true, have no such idea, but they are secretly influenced by an invisible agent. This place is also called *Ghacariyá*, from the noises heard there, and there is *Ghacariya-Bhairava*: this word is generally pronounced *Ghaucariyá*. This river is a branch of the *Háb*, which springs out of it, above the bay, and is remarkably well delineated in the map annexed to *Linschot's* travels, as I observed before. There it is called *Caurecá*, and in other maps *Caoricá*, which is perhaps a corruption from *Gaukeriyá* or *Gaucuriyá*, as it is often pronounced. Its course however is very oblique, with regard to the sea shore; and it falls into the sea, about two or three miles from the place, where the pilgrims cross it. During the dry season, there is no water in it; but it may be obtained in plenty by digging into the bed; which is choked with sands at its mouth; but it is supposed to be open during the rains. It is called *Phór* or *Phér*, from a town of that name, on the banks of the main stream.

Gaukeriyá or *Gaucuriya* is another name for it, from the place of that name in its vicinity, or because the *Ghaucuriyá*, or noises begin to be heard there: for this reason it is denominated *Colcalá*, because the *Colcalá* or noises of *Chan'dicá-deví* begin to be heard there about midnight; being compared to the distant twang of a bow string, or of the string of a musical instrument, similar to that which seemed to come from the statue of *Memnon*, and is probably a trick of the guides, who are really the priests of *Hĩngláj*. *Colcalá* is from the Sanskrit

Calácala, or *Coláhala*, implying strange sounds and noises: and *Coláhala* is the Sanskrit name of the country bordering upon the *Háb*. The mountains of *Coláhala*, are mentioned in the first section of the *Mahá-Bhárat*, as well as the *Háb* under the name of *S'uctimatí*, or the river full of oysters, which are found in abundance and of an unusual size, at its mouth, according to Nearchus. The famous *Vasu-rájá*, who conquered all the world, and seemingly contemporary with Vesores king of Egypt, was one day hunting over this mountain, and was very much displeased to find, that the mountain obstructed the passage of the river to the sea. He then dug several channels, reconciled the river, and the mountain, and they were married. From this union came a son called *Yu*, and a daughter called *Giricá*, or the mountain damsel. Rivers and mountains have two countenances, the first is such as implied by their names, and the second is a human countenance. The offspring of the above couple had also two countenances. *Yu* in a human shape became the charioteer of *Vasu-rájá*, and *Giricá* remains there as a distinct mountain, and is probably Cape *Mun'd*: but in her human shape, she became the wife of *Vasu-rájá*: and on *Coláhala* was the scene of the filthy, and obscene origin of the mother of *Vyása*.

From that circumstance the *Háb* is also called *Prítá* or *Narmmá*, the river of pleasure, and dalliance.

The latter may be an allusion to *Nammri*, the name of the aboriginal tribes of that country. That the consort, and originally the daughter of the mountain of noises, should be called also the river of noises or *Araba*, seems highly probable. '*Araba*, or '*Arba*, being used, as the name of a place, of a river, becomes '*Arabá*, '*Arbá* and '*Arbí*. '*Sucti* is generally used to signify oysters, however it implies all sorts of bivalves.

S'anc'ha is an univalve shell, a conch; but it is used also to express shells in general; and *S'anc'ha-desá* in Sanskrit, '*Sanc'ha-deh* in the spoken dialects, implies a country abounding with shells, and is, I believe, the origin of *Sangada*, the name of the country between the *Háb*, and Cape *Mun'd*, according to Nearchus. Though '*Arabá* implies the river of noises; yet it is probable, that originally it meant no such a thing; and that its name was either accidental, or that of some tribe living on its banks, which perhaps no longer exists; or at

least is unknown to the pilgrims, who visit that country; and the 'Arubá, or 'Arub tribe is mentioned in the Ayin-Acberi.*

The same may be said of *Colú-hala*, which, I am sure, never was meant originally to signify a country full of noises; for near it, is another district called *Tála-hala* in the Varáha-mihira-Sanhitá, and the Purápas; the inhabitants of which, are now called *Tála-Burji*. The general name of the country, it seems, was *Hala* divided into *Colú-Hala*, and *Tála-Hala*. In the Cumáricá-c'hau'da, this country is called Cálahavyánjaca, or country of noises.

According to the Scanda-purána, section of Revá, it is said, that from this place, Vasu-rájá advanced toward the west, crossed the sea, and carried his conquests to the limits of the west, as far as S'aca, or Cshíra-dwípa, or the White island, according to the Váyu-purána. Unfortunately every great king is asserted to have conquered all the world, which is considered, it seems, as a necessary achievement.

On the eighth, early in the morning, the pilgrims proceed, in a N. W. direction, toward a place called *Shabda-coti-cote*, distance about twelve cos, or 23 British miles. About half way is a singular spot dedicated to S'iva, and called *Chandra-cupa*, or the well of the Moon. It consists of three hillocks in a triangle, and having only a large circular base: one of them larger than the rest, is about sixty feet high, and has on its summit a bubbling spring, which intermits. The crater is about three or four feet wide, and is in the shape of an inverted cone. The water, which is hot, rushes up with a hissing noise, and brings up with it a small quantity of sand, which with the water falls again to the bottom of the crater. About twenty paces from it, and a little lower, is another similar spring, but smaller, which boils up also, though seldom, and then very faintly. That part of the plain, on which this conical hill stands, is somewhat higher, and rises toward the sea, where it forms a low point called, in the late nautical surveys, *Cudgerah*; but its real name is *Cunjaráh*.

Shabda-coti-cote or the fort of the ten millions of noises, heard there at least formerly, is called also *Saptávarna* or with seven enclosures. It is supposed to be eight cos, or fifteen miles from the sea; and is situated at the western extremity of that range of hills, which begins near the *Háb*, and runs westerly, in a parallel direction with

the sea shore : and which is compared to a *Cunjara*, or huge elephant, buried up to his belly into the ground. The head, on which is situated the fort, seems to look toward the sea, and projects considerably to the south. The depression between the head, and the body is very obvious, and is called the elephant's or *Cunjara's* neck. Of the head alone of the elephant they take notice, and the low point I mentioned before, being opposite to it, is denominated *Cunjaráh*. According to the *Scanda-purána*, the mountain of *Cunjará* was the daughter of *Himálaya*, and the wife of mount *Chrauncha*, who in his human shape having been killed by *Síva*, all his wives, and *Cunjará* among them, made dreadful lamentations, and cursed *Síva*.

This fort is the place of abode of *Chan'dicá'-deví*, a form of *Híṅgulá-deví*, or *Híṅgláj*. She is a most irascible deity, which, for the most trifling offence, will turn men, animals, ships, &c. into stones, plants, and trees. This place is the metropolis of *Strirájya*, or the kingdom of the woman, and it is called also *Chan'di-gráma* and by Pliny, *Condigrama*. Whatever man enters its walls, never returns ; of course no account can be given of the inside. The rocky summit of the elephant's head, appears like the ruins of an old fortified town. Such appearances are not uncommon along that coast, according to former navigators, and Alex. Child, in the year 1616, being 26 leagues W. N. W. from Guadel, took notice of seven rocky eminences inland, looking like so many castles in ruins, and called by the Portuguese the seven cities. Towards the east, near the neck, is a small ravine, and higher up, is something like a gateway, and the ravine is called the path leading to it. From the depression of the neck, and the low grounds below, issue a feeble rill, which runs westward into the *Haur* river. Its bed is generally dry, but good water is easily obtained by digging into it. On its banks, and about two miles south of the gateway, the pilgrims spend the night with fear and trembling, at least they tell you so, and early on the ninth day, they resume their march, and this is truly a most fatiguing day. From their resting place, on the preceding day, there are about 13 cos, or 25 miles to the banks of the *Haur*, and considering the trending of the sea-shore, the course I take to be W. S. W.

There is a consecrated tract of land, beginning about two miles east of the *Haur*, and extending about twelve cos toward east. It is very

near the shore, but its breadth N. and S. is in some places only four or five cos. In going through this holy ground, they must suppress all sorts of evacuations, they must not spit, blow their noses, and throw the matter upon the ground, &c.; otherwise they would be punished with an incurable leprosy. They cross it in an oblique direction, and reckon the distance to be travelled over, to be about six cos, or twelve miles. When they approach it, the guides admonish them, and on replying, that they are ready, on a signal given, they all set off, like so many dogs after their game (such is the expression, they use themselves) heedless of one another. When fatigued, they occasionally lie down, and by their reckoning, they traverse this holy ground in three hours. Some pilgrims prefer to go round this tremendous spot; but this is reckoned unfair. This holy ground is called *Camalá páth*, or the seat of *Camalá-devi*: another name for it, is *Colá*, or *Golá-páth*. It consists of a stiff, whitish clay, which softens during the rains, and the whole becomes an impracticable quagmire; and indeed this is asserted of all the low grounds between the *Háb* and the river *Haur*. The whole country, between these two rivers, is called simply *Camalá*, *Golá* and *Colá*; and by El Edrissi *Colwán*, from *Colá-van*; and this denomination is also made to extend, beyond the mountains to the north, called in Sanskrit *Darddura*, which is mentioned in the *Puráṇas*, as the name of a country, and of some mountains in that part of India. *Chan'dicá-devi*, who is really the *Circé* of the Hindus, is, from her living there, called *Dardduri*; and she might also be styled *Círí*, or *Círcá*, as she resides in the country of *Círa*.

About two miles to the east of the river *Ghaur*, the pilgrims perceive the sea, and some rocks, among which there is one larger than the rest. These are supposed to have been ships, and boats formerly; which with all their crews were turned into stones by *Chan'dicá*. The same story is related, concerning a rock close to the island of *Ashtola* in that country, by Capt. Blair, who says that the natives assured him, that the island was enchanted. Some merchants had attempted once to settle at the mouth of the river *Haur*, and had built a little town, which was frequented by ships loaded with various articles of trade. The goddess had told them repeatedly that she disapproved of their settling so near to her; but they insisted, and were justly punished for their obstinacy and presumption.

This town is called *Cambele* by El Edrissi, and *Camhal* by Háji Califah, from *Camalá*. The river retained that name, even to the time of the Portuguese, who call it *Camelo* in their maps. The town was 1500 paces from the sea, and existed before the time of Alexander. These rocks are called *Hinláh* in some late surveys for *Hinláj*; but had it not been for this curious legend about them, the pilgrims would not probably have taken the least notice of them.

They arrive afterwards on the banks of the river *Haur*, much fatigued, and after having eaten and drank in the evening, they sleep the whole night, and the next day they perform their ablutions, for the first time since they left *Nagar-Tathá*, or *Tethá*. The sea is not to be seen from that place, and they could give me no information about its distance, which I suppose to be about four or five miles. The bed of the river is about 500 feet broad, the stream, in the dry weather about 100; and in the deepest part about three, or three feet and a half. Its water is limpid, and very good; it runs with great velocity, and for this reason the tide does not come up to this place. About a mile from this river, is another small one, called the *Hiñgulá-Gañgá*, which comes from the north, and falls into the *Ghaur* river; and its source is within the ravines of *Hiñgláj*. The pilgrims then travel N. W. for about two miles through a broken ground, with small hillocks, and a few low trees, and shrubs, to the foot of the hills of *Hinláj*. This is properly the table-land of the country; for the real range of hills is several cos further to the west. This table-land consists of white chalk; for which reason, they are called *Dhavalá-giri*, or *Dhaulá-giri*. This table-land is not above 70 or 80 feet high; but is intersected by many ravines, and among these ravines, are all the numerous places of worship at *Hiñgláj*. There is a stream at the bottom of almost every one, which uniting, forms a small river called *Cán'ere*, from the number of flower-bushes of that name. There are many of them, in the gardens, in the Gangetic Provinces; its flower is of a red colour, and its Sanscrit name is *Carñ'acára*. The *Cán'ere* runs toward the east, into the *Hiñgulá*, and through its bed, is the entrance into the holy recesses of *Hiñgláj*. From the *Ghaur*, they reckon six cos, or twelve miles, to the westernmost parts of these recesses; but, on account of the numerous windings, I suppose the horizontal distance, to be about six or seven miles only. There are no statues, nor temples; but shape-

less stones and dark cavities in the ravines, are dignified with these names. *Loca-mátá* the mother of mankind, is the chief deity, and before her temple, they strip naked, and rolling themselves upon the rough pavement, like madmen, call out "*Ai-mátá! Ai-mátá!* cleanse us from our impurities." *Ai-mátá* signifies the woman our mother literally, but here it implies our lady, and mother. Musulmans, who take her to be Eve, have translated *Ai-mátá* by *Bibt-Nání* our blessed lady, and grandmother. She is styled in the Purāṇas *S'ri-Mátá*, our blessed mother; *Deví-Mátá*, the goddess our mother, and *Loca-mátá*. There is a part of the rock supposed to be a statue of *Gan'es'a*, but his head, *Mud'an*, is several eos further. *Bábá-Nána* has also there a place dedicated to him. The pilgrims remain there one or two days, and then return the same way they came.

The valley, between the western ridge, and the fort of *Chandicá*, I suppose to be about eight miles broad: it inclines to the east of north, and forms a slight curve in that direction. The river *Ghaur* runs through it, and is fed, in the lower part, by many rills from the ridge to the west of it.

Through this ridge is a famous pass, leading to the westward, called *Rájáhán*, or *Rájáhán't*, that is to say the place of the discomfiture, and total overthrow, of the *Rájás*: for *Rána*, both in the character of *Parasú*, and of *Chandra*, overthrew there, the confederate kings of the *Cufs*: hence it is called *Cophanta* by Ptolemy, from *Cuf-hán't*, the place of the discomfiture of the *Cufs*. I never saw but one pilgrim, who had visited this place; though it was known by name to others. There were no inhabitants: he saw one or two pools of good water, and its distance from *Hiñgláj*, he supposed to be two or three days' journey. It was then twenty years since he had been there, but as far as he could recollect, it was at a considerable distance from the river *Haur*. A high road from *Tha't'thá*, through *Kij* on the *Háb*, and *Cárá-Beileh*, leads through this pass.

Cárá, or *C'hárá-Beileh* is a pretty little town for the country, situated in a beautiful spot, well cultivated, and on the banks of a little river, supposed to be the *Haur*, or *Ghaur*.

This place is known by name to several pilgrims: but I never saw but one who had been there. He was a *Sikh* priest, and a well informed man. According to him, it is four days from *Hiñgláj*,

and greatly to the east of north from it. There were neat brick buildings, with beautiful orchards and gardens, and the inhabitants seemed to be in good circumstances. This town, I suppose to be the *Er-mayil* of El Edrissi; the *Armaiel* of Ebn Haucal.

Beileh signifies a town, a village in the dialect of that country, and is, I believe, the true reading; and the account given of it by El Edrissi agrees with that of the *Sikh* priest. From the particulars given by Arrian, there can be no doubt, but it is *Rambákia*, or *Rámbág* situated in a delightful spot, and the largest town in the country; and this induced Alexander to colonise it, and it was called *Alexandria* afterwards. Q. Curtius says, that Alexander reached the country of the *Arabii* in nine days, (I suppose from Pathala) and, that on the fifth, he crossed the river *Arabus*. He then entered the country of the *Arbii*. This river *Arabus*, or *Arbis*, I take to be the Indian *Háb*. On the ninth day, I suppose, he arrived on the banks of the real *Arbis*, on the confines of the *Arbii*, and of the *Oritæ*, not of Gedrosia as he says; for Gedrosia includes both the *Arbii* and *Oritæ*. This passage is obscure, owing to the carelessness of our author. This river, says Arrian, is not very deep: this is true of the Indian *Háb*, but not of the other, at that season of the year; and I have been assured, that its banks in general are very high, much broken, and the *gháts*, or passes very difficult: for which reason, travellers avoid as much as possible the valley, through which it flows. Thence Alexander went to *Rámbág*, now *Cará-Beileh*, or *Haur-maiel*: El Edrissi says, that it is two days from *Kir*, or *Kij* on the *Arbis*; but Ebn Haucal says four; and I believe he is right. It appears from Arrian, that *Rámbág* was at considerable distance from the pass, through the mountains of Gedrosia; and I suppose it to be between one and two days from it. Thereabout *Ráma-chandra* waited for some time, till he could bring the confederate kings of the *Cofs*, or *Caphs* to an action. They had entrenched themselves strongly in the pass; but being allured down, they were completely defeated; hence the field of battle has ever since been called *Rájhán* or *Rajhán't*, and *Cophán't*, or the place of the slaughter of the confederate *Rájás* of the *Cophs*. *Parasú-Ráma* did the same before, and *Ránia* at the end of the world will encounter *Bali*, and his allies, and give them there a complete overthrow. The place, where their immense armies were stationed,

for a considerable time, was called as usual *Rámbág*. Tradition has recorded *Rájhán't*, but says nothing about this *Rámbág*. Alexander, in consequence of the nature of the ground, took exactly the same measure with his predecessors, and followed the same steps, and was equally successful. This place is the *Cophanta* of Ptolemy; though misplaced by him, as well as *Ora*. There might have been several towns denominated *Cophánta*; for the Caphs' country extended, from the entrance into the Persian gulf, unto the Indus. They are called *Capis* in Sanskrit, and their country *Capi'sáyana*. Another name for it, is *K'í'da*, or *Kíra*, probably the *KIR* of Scripture, and in Hebrew *Caphtor* signifies the mountains of *Caph*, *Caphs*, *Cophs*, or *Cephenes*.

Some pilgrims, from report only, say, that to the north of *Hĩngláj*, there is a considerable town called *Ghaurí*, or *Hauri*, upon a small river in a delightful spot, and supposed to contain about 6000 inhabitants, which is a great deal for the country. They did not agree about the distance; some supposing it to be four days; others five or six, and even seven, like the *Horæa* of Arrian. Whether it be the same with *Haur-Beileh* is uncertain. One of them, if two different cities, is the *Ora* of Ptolemy, and the *Horæa* of the author of the *Periplus*. From it the country is called to this day *Haur-Cánán*, or *Haur Cáian*; and its ancient inhabitants *Ori*, and *Oritæ*. The southern parts are called *Colá* by pilgrims, and *Colwán* for *Colá-van*, both by El Edrissi and Ebn Haucal. The country to the east of the *Háb* is called *Rahun* by El Edrissi, and *Rahouk* by Ebn Haucal; and Mauluvi Sáleh recollects the latter or *Réhook*; either as the name of a town, or of a tribe, to the west of *Tha't'thá*. *Rávaca* in Sanskrit implies a country of strange noises from *Rava*, or *Raba* noise; and from it, is formed in Sanskrit *Áraba*, or *Árba*, either with B or V, and *Áraba*, which being used as the names of a country, or of a river, become *Arabá*, *Árbá*, and *Árbí*, *Arabá*, or *Árabí*, and *Árabaca*, or *Áravaca*. Whether these denominations were meant originally to signify a country full of strange noises, is certainly doubtful. None, however, of the preceding etymologies are mine: but the Pauráńics suppose, that, in all countries styled *Strírájyam*, or country solely inhabited by women, strange noises are heard, and some occasionally really so dreadful, as to drive those who hear them into madness, or even so as to cause instant death. Be this as it may, there are several such coun-

tries in India; one in the peninsula, another near the mouth of the Indus; and several in the mountains to the north. This *Strí-rájyam*, near the mouth of the Indus, is peculiarly noticed in the only section remaining of the *Mahábhárata* of Jaimini. Hanumán, who is still alive, resides in *Strí-rájyam* in the peninsula; and these dreadful sounds, are supposed to proceed from him. The women, who reside in this southern *Strí-rájyam*, are greatly inferior to Hīṅgulá-deví, and her forms: these were originally the wives of Rávana, who kept them in a place of security, among mountains, in the peninsula. Rávana having been killed by Ráma-chandra, the conqueror allowed his wives to remain unmolested in that place. He even left some of his own amongst them, and Hanumán was appointed their guardian. They are all addicted to sorcery, very lewd; and they all endeavour to decoy men into their precincts. The country to the west of the Indus, as far west as Persia, and to the north, as far as Candahar, is called *Kí'da*, or *Kíra* in the *Puránás*; from which, in a regular derivative form comes *Kírmán*, and *Kíra-sthán*, its present modern names. It is divided into *Kí'da* proper, or Gedrosia, and *Macrán*, for *Macarín*, or the whale country: Stephanus of Byzantium is the only ancient author, who notices *Macarín*, or *Macaréné*. **Kí'dá*, or *Kír* is softened as usual into *Kíz*, or *Kíj*, as Munz for Mun'da; Termiz for Termed, &c., and Kedrosia or Gedrosia is from Kid-roh, which in the language of that country, signifies the mountains of Kíd'a. *Macrán*, in general, is supposed to include *Kíj*; hence the latter is called *Kíj-Macrán*. The Indus, in its lower parts, is called *Mehrán* by Musulmans, and *Mehrán* by Hindus, who constantly spell it *Mehrán*.

This is, I am told, in the dialect of Cach'ha; and it seems to be also the name of the country from *Sewán* to the sea: and to the west as far as Cape *Mun'd*: if not further. The country of *Míhrá* is mentioned by Ebn Haucal; and the same is called *Míhrán* by Abulfeda: and these two authors call the Indus *Míhrán*: but the true name, both of the country, and of the river is *Mehrán* and in a derivative form *Mehrán*. Its metropolis is called *Tíhrán* by Abulfeda, obviously for *Míhrán*, or *Mehrán*. It was situated, according to him, between *Al-Dobil* on the sea, and *Mansurá*, or Bacar; and was upon the river *Míhrán*. This town of *Mehrán* is called *Bahráj*, for *Mahráj*,

* Steph. of Byzant. voc. Alexandria.

by Haji-Califah, and it is the *Beherje* of Ebn Haucal, who places it on the western side of the *Mihrán*, equally with other towns, between *Daibul* on the sea coast, and *Mansurá*. The word *Beherje* is written by him, in another place, *Mehreje*, which is the true reading.* It appears to me, that this town is the ancient *Pathalé*, now *Nagar-Tathá*, or *Sháh-bandar*, whose king is called *Mæris* by the historians of Alexander. When we read in the *Ayin-Acberi*, that, in former times, there was a king of *Tathá*, called *Sehris*, I believe, we should read *Mehris*: for in another place, he seems to call *Tathá*, *Serree* or *Serris*, which is inadmissible; but one of its names was *Mehrá*, *Mehri*, or *Mehrej*.† Abulfazil says, that *Sháh-beg Arghon* invaded *Tatah* twice; but on the first invasion *Tatah* is called *Seeree*.

Mehrej was the name of the town, and of its king, as usual in India; though they had a proper name of their own. The inhabitants, considered as a tribe, or nation are mentioned by *Stephanus of Byzantium*, under the name of *Mórieis*. They lived, says he, in houses of wood. This is peculiar to the inhabitants of the low grounds, near the *Indus*, on account of the‡ inundations.

Oriental writers have in this country the sea of *Oman*, or of *Persia*, and the sea of *Herkhand*; though according to *El Edrissi*, both seas were called in the language of India *Harkhand*. This sea is called by the *Parsis*, according to *Anquetil Duperron*, *Fer-Khend*, from the adjacent country. *Gedrosia* is called by eastern writers, *Cánán*, sometimes shortened into *Cáian*, and it is divided into three parts, *Kij-Cánán*, *Pher*, or *Phor-Cánán*, and *Haur-Cánán*. *Pher-cánán*, or in *Hindi Pher-c'han'da* is I suppose, the true name of that sea; and from *Pher-cánán* comes *Ptolemy's Paragonos*, or *Paragonon Sinus*, gulf, or sea; though certainly somewhat misplaced by him. The gulf of *Terabdon* at the mouth of the *Háb*, mentioned by the author of the *Periplus*, is perhaps a corruption from *Pher-ábdhi*, the sea of *Pher*, or *Phor* in *Sanskrit*. The sea, about the mouths of the *Indus*, is called the sea of *Sinda*, by *Stephanus of Byzantium*; from an inland town of that name. *Pher* or *Phor* formerly *Pura*, is now more generally called *Kij-Mecrán*: though *Kij*, and *Macrán* be two distinct towns;

* Ebn Haucal, pp. 139 and 145.

† *Ayin Acberi*, Vol. 2d, pp. 146 and 149.

‡ Ditto ditto, p. 137.

but as they are not far from each other, they are generally named together, a very common practice in India. Some suppose P'hor, to be called Kij-Macrán to distinguish it from another town in Macrán proper: this being situated in the country of Kíd or Kíj. Kij called Kír by El Edrissi, is the ancient Arbis.

Ptolemy with the Hindus reckons seven mouths to the Indus: it has many more; but this is a sacred number; and it is the same with regard to the Gauges. None of the modern names have any striking affinity, with those recorded by Ptolemy; of course, in a comparative essay, I have but little to say on this subject. We are hardly acquainted with the mouths of the Indus: in every new sketch, new names are introduced; old ones disappear, and transpositions take place. I shall of course content myself with a few general remarks. The meeting of the *Sindhu* with the Ocean is celebrated in the Bhágavat, under the name of *Sindhú-Ságara-sangama*, or simply *Ságara*, as we say, with regard to the place of the meeting *sangama* of the Ganges with the sea. The outermost mouths are generally considered as more sacred; though sometimes that privilege is in a great measure annexed to one only. This induces me to suppose, that the westernmost branch of the Indus, called *Sagapa* by Ptolemy, is a corruption for *Ságara*. The second is called by him very properly *Sinthus*; being the main western branch of the river *Sindhú*, and is the branch of Láheri-bandar. The golden mouth, or the third, was probably thus called on account of the immense trade carried on through it. This I suspect to be the middle mouth of the Arrian, and in the bay of *Rishál*, called also *Rishád*, in the French sketch I mentioned before. The fourth called *Chariphi* by Ptolemy is perhaps the eastern, and main branch of the Delta, from *Ga'di*, or *Gairi*. *Ga'di-bhi* is literally *Ga'di also*, an expression generally used in enumerating various articles, places, &c. It is the largest, and seldom frequented on account of the rapidity of the tides, and the violence of the bore.

The fifth called *Saparaga*, probably for *Saparaganh*, from *Sapara-gráma* in Sanskrit, or the town of *Sapara* at its mouth, which seems to be *Bastáh*, a very ancient town, which probably existed before the time of Alexander. This seems to be the mouth called *Pokhar* by Major Rennell; because it communicates with the Indus, through an arm called *Pokhyári*. It is probably the *Subara* of El Edrissi erro-

neously called *Sourba* by Ebn Haucal. El Edrissi says, that from *Dobil*, on the first limits of India, to the island, or rather peninsula of *Mon'd* or cape *Monz*, there are six miles; but the distance is obviously wrong. From *Mon'd* to *Coli* six miles. This little town, which he calls in another place *Cas-Cahar*, is in the island of *Domai*, or rather on the continent opposite to it. *Coli* signifies a creek, as well as *C'hazizan*, the *Rizana* of Ptolemy. From *Coli*, says El Edrissi, to *Subara* near the sea, there are five days' journey; hence to *Sandan*, or *Sindan*, according to Ebn Haucal, there are five also. *Subára* falls in at *Sapara*, or *Bastáh*; *Sindan*, or *Sinda* is the present *Tha't't'há*. This *Sinda*, or *Sindia*, says Ebn Haucal, was called also *Mansurá*. This is the *Sinda* of Stephanus of Byzantium; the *Sindomana* of the historians of Alexander. *Sindhú-mána* signifies the mansion, on the river *Sindhú*, and its present name *Sind-Tha't't'há* signifies the inclosed place on the Sind. It is true, that El Edrissi, misled by the similitude of names, has confounded these two places with *Supara*, and *Sandan* near Bombay. But Ebn Haucal mentions these two places, and his Geographical information does not go beyond the gulf of *Cach'ha*.

The sixth is called *Sabalassa*, a very uncommon name: but the Bhágarat accounts for it, in a curious legend relating to the *Sindhú-Ságara-sangama*. *Dacsha* the eldest son of *Swayambhuva* or Adam, but not born of a woman, was directed to marry; and to proceed to the pro-creation of mankind. He obeyed, married, and had two sons *Haryús'va*, and *Sabalús'va*. They both went to the mouths of the Indus: *Haryús'va* placed himself near the western branch, and *Sabalús'va*, probably near the branch of that name; and in a short time they produced each a thousand male children: but they all went to *Narayén-sár*, or the pool of *Narayé'na*, near the easternmost mouth of the Indus; renounced the world, and obtained eternal bliss.

The seventh mouth called *Lóni-bári*, is that of *As'ápúrí*, and probably so called from *Bári*, an inhabitation, in the middle of a forest of low shrubs, called *Lúni* in that country, and *Jhau* on the banks of the Ganges; and which really overspreads the Delta, and the adjacent country. This branch is not to be mistaken for the *Nala-Sancara*, which is to the west of the Indus, and which it rejoins above *Sewán*, being a branch of it, and its old bed. The *As'ápúrí* branch springs out from the Indus, below *Sewán*, and passes within seven cos to the

east of *Tha't't'háh*, and was seen by Capt. Whittington in the year 1613. Near the mouth of the seventh branch is, I believe, *Devá-Náráyana-Sár* or the pool of Narayana, also the place of the filthy *Calí-linges'wara-Mahádeva*, or the lord with the ten millions of Phalli.

From the longitude, and latitude assigned to *Cáraichi*, and the three next mouths of the Indus by Father Monserrat, their respective distances are as follow :—

Canthi-naustathmus stationi, respondet Scopulorum, qui pro Indi ostio eminent. This he calls also in Portuguese *Sorgidouro das monaras*, and from it to the mouth of *Sagapa* called *Barra d'Ormuz*, he reckons four nautical miles and a half: thence to that called *Sinthus*, or *Barra do Guzarate* nine miles: to the *Aureum ostium*, or *Barra do Gemal* a little more than eighteen miles. *Gemál* is probably the name of the Musulman Saint, entombed on the eastern shore of the bay of *Rishál*.

In the year 1786, a French Frigate, called, I believe, the *Venus*, anchored in the bay of *Rishál*, and remained there a fortnight. Some of the officers went in the longboat to *Sháh-bandar*, and made a sketch of the bay, and of that branch, that led to *Sháh-bandar*, as far as that town. One of them soon after came round to *Calcutta*, where he was introduced to Mr. R. Johnson, who died lately in England, just as he was returning to India, and with whom I lived. At his request the French officer gave me a copy of their survey. They certainly did not do much, but there is every reason to suppose, that their survey is sufficiently accurate. That gentleman declared to me, that the bay was called *Dishád*, and *Rishád* by the natives, and that they had made particualar enquiries about it. According to the sketch, the general direction of the bay is N. E. by N.: but its greatest length from the tomb to the east, to the bottom of a recess, or inner bay, and due north from it, is between seven or eight G. miles. Its breadth N. W. and S. E. between four, or five miles N. E. by N.: from the tomb, about five, or six miles, is the entrance of the branch leading to *Sháh-bandar*. At the bottom of the recess, is an arm coming from the N. W.; and another leading to the sea, in a S. W. direction, and this is called *Juhú*. This is the bay into which Alexander, and his fleet came through a branch of communication, between the western arm of the Indus, and this bay; the breadth of which according to *Arrian*

was 200 stadia; but the numbers in Arrian are erroneous, and we should read 100 only. It was open to the sea toward the south, and during the stormy weather, which prevailed at that time, his fleet suffered much: but having procured guides, Alexander carried it into smaller channels, where it was safe. According to the above sketch, Sháh-bandar is 37 geographical miles, horizontal distance, from the tomb to the east of Rishál bay, and 36 degrees east of north from it. The latitude of the tomb, according to Major Rennell, is $24^{\circ} 14'$; and this will place *Sháh-bandar* in Latitude $24^{\circ} 42'$, and in Longitude $67^{\circ} 11'$.

On the branch, that leads from Sháh-bandar into the bay, there is a town called *Sháh-gar*, 16 miles nearly from Sháh-bandar; and to the S. by W. of it. It is remarkable, that the situation of *Sháh-gar*, answers to that of *Sháh-bandar* in Major Rennell's map; and *Sháh-bandar* in the sketch, stands in the room of *Aurangábád*, whilst the latter is carried, about one day's march, above the point of the Delta.

This sketch extends no further to the westward, than *Jahú*, a small river noticed also by Major Rennell, and to the west of it, near the sea, is a small place called *Nowi-bandar*. The rivers to the east of Rishál, are the *Jumná*, the *Kaar*, and the *Goreh* (for *Gaireh*) or *Baniány*. The *Jumná* is called *Iyyamany* by Major Rennell, and I believe the latter to be its true name; for it is idiomatical in the dialect of that country, in Sanskrit, and in Hindi; but it should be spelt *Ijyámání*, from *Ijyámána*. *Ijya* is synonymous with *Sangama*, and *Ijyámána* signifies the confluence of the river *Mána* with the sea.

Ebn Haucal mentions two considerable places here, *Resasil* and *Canteli*: the former was about a mile and half from the sea, and the true reading, I suspect to be, *Raz-Asil*, or the Cape of *Asil*, called *Asawel* by El Edrisi, probably from *A'sáwáli*, the name of the seventh branch, from the *sthán* of the goddess *A'sá*, and the Cape is to the S. E. of its mouth. Hence, says Ebn Haucal, there are two days' march to *Canteli*, a considerable town. *Canteli* is probably a mistake for *Cunti*, the name of the country, and its metropolis is called *Cunti-Bhoja* in the Purāṇas. Arrian says, that beyond the lake *Eirinos*, is a point of land, where begins the gulf *Báraká*, or *Dwáracá*. It seems to be that called *Churcar* in modern maps, and *Massada*, perhaps for *A'sada*, in the old ones. Arrian gives a good account of the dangers

attending the navigation of this gulf ; in which he mentions seven islands, and one of them, called *Báráká* by Ptolemy, is the same, in which is situated *Dwáracá*. *Báracá*, and *Dwáracá* are synonymous, as I have shewn in a former essay.

Arrian is certainly mistaken, when he says, that one only of the seven mouths of the Indus was navigable. I believe it never was the case, and certainly Alexander went through four of them. I believe that Alexander, from the island of *Pattala*, went first, down the western branch of the Indus ; and three or four eos below the town, got into the branch that leads into the bay of *Rishál*, from which he returned into the western branch to an island called *Cilluta*, where there was good water, and a safe anchorage. Thence he proceeded down the river and saw another island at sea. He did not go to it, but returned to *Cilluta*. Q. Curtius has transposed the whole : he makes Alexander go first to *Cilluta*, thence to the bay of *Rishál*, and afterwards to the second island, which is not likely. His three days to the sea, are to be reckoned from *Pattala*, and his 400 stadia from the first island to the second. His account of Alexander's navigation, through the Delta, I conceive to be this : he procured guides at *Pattala*, who were ignorant, what the sea was ; but it was found out, that they called it the bitter water, or *Khárá-páni* : and it is so called to this day by the natives of the Delta of the Indus, and also of the Ganges. This *Khárá-páni* was three days journey from *Pattala*. On the third day, in the morning, they began to feel the sea air, which they recognised immediately. About nine o'clock, in the morning, the tide came rushing with violence into the bay, and his fleet suffered much. Having procured fresh guides, he was advised to take shelter in some narrow creeks, and channels, which he did, and thence proceeded to the island of *Cilluta*, in the middle of the western branch, where his fleet was safe. He then proceeded down the channel for 200 stadia, and saw, at a distance, an island at sea. The distance from *Cilluta*, probably *Láheri-bandar*, to the second island was 400 stadia, or 27 miles ; which fall in at *Crotchey* bay, where there are some high rocky islands seen at a great distance, and I believe it would be difficult to find another island to answer our purpose in the vicinity, either of the western, or any other branch.

The country is very low and flat, and I doubt not, but that the

highest of them may be seen, at the distance of twelve miles inland. Father Monserrat says, that a small island, with other rocks, rises very high just before the mouth of the Indus, meaning a branch of it. It is called *Camelo*, and is a large rock; and there the river runs directly east and west. Those rocks, says he, from their altitude, are called *Towers*, and *Monaras* (for Minars) by the Arabs; in whose language *Monara* (Minára) signifies a tower, or pyramid. This station, for the shipping, is called by the Portuguese *Rio do Pilotos*. On one of these rocky islands, Alexander erected altars to Tethys, and the Ocean, according to Diodorus the Sicilian.

It is probable that Alexander was desirous to survey the channel himself, through which his fleet of discovery was to pass: whilst Leonnatus, at the head of a strong detachment, was marching along the right bank of the western branch. These islands, opposite to the mouth of the Indus, are noticed by Pliny: and it is the opinion of Father Monserrat, that these are the same islands, though says he, there be neither gold nor silver to be found there. There are three rocks of a larger size, than the rest; and probably they were considered by the Hindus, as usual with them in similar cases, as representing mount Meru, with its three peaks of gold, silver and iron. Be this as it may, Pliny brings Nearchus and his fleet from *Xylenopolis*, down the westernmost branch of the Indus, opposite to which were several islands. This place is the *Coreestis* of Arrian, and the modern *Caráchi*, *Cráchi*, or *Cáraichi*; for these several denominations are equally used. As there is very little wood in the Delta, and the lower parts of Sind, it was procured from time immemorial from *Sóneymyáuí*, and the mouth of the *Arbis*, and brought to *Láheri-bandar*; which became the mart, and staple for that useful article: hence some suppose, though erroneously, I believe, that its true name is *Lackeri-bandar*, or *Xylenopolis*. The wood imported consists, in general, of poles in their rough state from the forest, for rafters. These poles are called in Hindi *Gola*, in the west *Colá*, in French *Gaule*. The town of *Colaca* of Ptolemy answers, from its situation, to *Láheri-bandar*; and it is called in the Puráṇas *Collaca*, and also *Sindhú-Colaca* from its being situated on the Indus. *Colaca* is a Sanskrit derivative form: but in the spoken dialects of the countries, from Muttrá to the Indus, they would say *Colati*, and *Colachi*; and from these two last, the historians

of Alexander made *Cilluta*, and *Cillustis*. Thus from *Mehva*, the name of a tribe west of the Jumná comes *Mehvati*, a man belonging to that tribe: from *Coel* in the Doab *Colati*, a man, a horse from that place. *Colachi*, or *Colchi* are seldom used, except as the name of a place, and are considered as a derivative from *Cola*, whatever be its meaning. One hundred stadia below *Xylenopolis*, Nearchus anchored at the entrance of a large channel called *Stura*. The letter *S* should be left out, as in *Scilluta*, and *Stoberus*, &c. *Túrá*, or *Túri* is not an uncommon name of places in India: and its derivative *Twer*, *Twári*, and *Tewári* are oftener used; and there is such a place in Jungleterry.* Within the Delta in Sircar *Chucar-háleh*, according to the Ayin Acberi, there is a small district, and town called *Tewári*; and I suspect that *Daráwáy*, is either a corruption from *Tawári*, or is derived from *Túrá*. *Turá-váh* in the dialect of that country, and also in Hindi, and Sanskrit, signifies the channel of *Túrá*. The western branch of the Indus, below Láheri-bandar, divides into two channels, the largest of which, is to the left, and is called *Daráwáy*: there Nearchus anchored, and then entered the smaller one to the right.

I believe, that the distance to the two next stations *Caumana*, or *Caumara*, and *Coreestis*, and between them also, is too short, and that there is some mistake in the numbers. Curtius reckons 400 stadia from the first island, or *Cilluta* to the second close to *Coreestis*, and I believe that he is right. Nearchus says, that at *Caumana*, a little more than one mile from the sea, they found for the first time, that the water was brackish, but I am assured, that the water of the various branches, in the lower parts of the Delta, is not drinkable, at the distance of eight or ten miles from the sea; except in the main branch, owing to the rapidity of the current, and perhaps except during the time of the inundation which had been long over, when Nearchus put to sea.

From the mouth of the western branch Alexander returned to *Pattalá*, and thence he proceeded down the eastern, or main branch; then through the channel of *Poc'hyári*, entered the lake *Erinos* now *Rá'n* or *Ar'na*. From this place, he went with a body of cavalry, along the sea shore, for three days, and probably as far as the river *Mu'd*, *Mu'dí*, or *Mudai*. He returned to *Pattala*, and soon after

* See Major Rennell's Book of Roads, pp. 134 and 185.

came back to the lake, and there ordered a naval yard, and dock, to be constructed on the spot probably, where *Bastáh-bandar* stands now, and this is, I believe, the town of *Potana* mentioned by Diodorus.

Justin says, that Alexander built another town in the Delta, called *Barké*; this is the emporium of *Barbariké* of Arrian, called *Barbari* by Ptolemy. It was in the middle mouth, and I suppose at the bottom of the bay of Rishál, having a little island in front. *Barrá-bári* signifies the great inclosed place, or the greater Bári. Many villages in that country are called Bári, or Thatthí from having either a mud wall, or some other fence all round. Several places are called Bar-báryá, for Barrá-bári, in the eastern parts of India.

But let us return to Nearchus, whom we left at Coreestis, or Cárai-chi; called also *Carcede* by the Portuguese formerly. There he had been obliged to cut through the bar, at the mouth of the river, during the recess of the tide. This is sometimes done in the Sunderbunds in Bengal, and other places in the Ganges, and if Alexander did not meet with the same difficulty, it was owing probably to the tide rising up higher at that time. From this place they reached *Crocala*, after a course of 150 stadia, or nine miles; but 20 Roman, or $18\frac{1}{2}$ British miles, according to Pliny. It was a sandy island, which, I suppose, was at the mouth of the river *Háb*; and of which I took notice before. Father Monserrat, in his MS. map, says, that there was a Bay at its mouth, and writes opposite to it in Spanish, *Enseada dos Ab-indos capar sellada*, the two last words of which, I do not understand. *Crocala* is probably derived from *Colcala*, or *Corcala* in the spoken dialects, or the river of noises. This river *Háb* is the *Hypphasis* of Philostratus, who says, that it runs through a narrow bed, full of stones, and falls into the sea with a dreadful noise. This account is greatly exaggerated, as may be supposed. This *Háb* is also the river Arabus, or Arbis of Q. Curtius, who says, that Alexander crossed it on the fifth day from Pathala; four days after which he crossed the real *Háb*: but the passage from that author is certainly obscure.

Leaving *Crocala* Nearchus proceeded, having a promontory called *Eirus*, to the right, and a low island, almost level with the sea, on the left. It runs parallel with the coast, and so near, as to leave only a narrow channel, winding between both. This island does not appear in the maps, and perhaps it no longer exists. If so there is still a

shoal, seemingly above water. For Dr. Vincent, to whom I am indebted for these particulars, says that Commodore Robinson's squadron rounded Cape *Monze* at a considerable distance, to avoid a shoal, which extended to the southward of that promontory.* This Cape is called *Mund* by El Edrisi, and *Monz* in our maps, from the Sanskrit *Mun'da* a head, and headland. It is called *Wair*, and *Howair* by Arabian writers, *Vaihúr*, or *Waihúr* in Sanskrit; and with it, they mention also the mountain of Cosair, with another opposite to them, called *Dordur*, and the sea near them was called *Ghazera*. El Edrisi mentions several other mountains so called, at the entrance of the Persian gulf; a third near the island of Comar, and the fourth at the extremity of the sea of Sin.

These were places much dreaded by navigators: the mountains of *Dordura* in this part of India, with a place, or places called *Cach'hara* are mentioned in the Purāṇas. The mountains of *Dordura* were near the sea shore, and *Cach'hura*, or *Cach'hara* implies both a muddy shore, full of quicksands, *punschala*, or quagmires; and such abound in the gulf of *Cach'ha*. These mountains were only sandbanks, as they were often covered by the waves.

(To be continued.)

A short notice of an Ancient Colossal Figure carved in Granite on the Mandár Hill in the District of Bhágulpúr. By Captain W. S. SHERWILL, Revenue Surveyor.

Thirty miles south of Bhágálpur, and partially surrounded by jungle, stands a hill named Mandár or Madsúdan, a mass of naked granite (gneiss) about eight hundred feet in height; this hill from its extraordinary appearance, its fearful precipices, and altogether singular position, appears to have attracted at a very early period of history, the notice of the half-wild races then inhabiting the valley of the Ganges.

Viewing the hill from the south it presents on the eastern flank a convex profile of naked granite, measuring about 600 feet over the

* Voyage of Nearchus, Vol. 1st, pp. 196 and 198, edition of 1807.



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curve, and forming a deep precipice which terminates in a debris composed of heaps of loose rocks that have exfoliated and fallen from the rounded mass above. The southern face of the hills is composed of numerous smaller rounded and naked masses of rock, and on them are inscriptions, sculptures, remains of buildings, flights of stairs cut in the solid rock, tanks and other evidences to show, that this now deserted spot, must have been at some very distant period of time a scene of activity, industry and intelligence.

At the southern foot of the hill is a large tank named Manohar Kúud, around the banks of which are numerous fragments of pillars, capitals, scrolls of flowers and mutilated images—all cut in a rude style from the rock brought from the hill; the gneiss being composed of highly contorted and minute strata and being filled with innumerable garnets—the stone has a very beautiful appearance.

From the base of the hill to near the summit are numerous flights of steps connected with broad landing-places cut out of the solid rock; the steps amount to about 400 in number; the rocks, in several spots, have inscriptions carved on them the letters of which are seven inches in length—about two hundred feet from the base a groove, broad enough to lay the foundation of a wall, has been cut in the rock and extends for several hundred yards along the face of the hill, but if it ever was used for a wall, no ruins or trace of such a defence are any where to be seen.

Numerous heaps of carved stoues appear on the hill but they have evidently belonged to, or were intended for a temple which probably was never erected, this last conjecture appears to be the more likely one, as every thing connected with the half-finished works on the hill leads to the belief, that the workmen must from some unknown cause have been disturbed in their work, which was never resumed; this remark particularly applies to the colossal figure, which has been partially carved from one of the rounded masses of granite. This figure is about half-way up the hill and measures fifty-two feet eight inches in height, although in a sitting posture. The image in Dr. Buchanan's time, 1810, A. D.* was called Madhu Kaitabh, but by the versatility of the Hindu religion, it is in 1851, called Bhíma Sen, although, still attributed to the Kol Rájás. It is a pity the learned

* Dr. B.'s Bhaugulpoor, p. 61.

Doctor did not visit the image himself, as he or his pandits would probably have settled by whom it was made and whom it is meant to represent.

From the accompanying sketch made on the spot the likeness to Egyptian sculpture must, I think, be acknowledged by every one.

By the sketch it will appear that the forehead of the image is crowned with three pyramidal ornaments; removed back from which and on the crown of the head, is a cylindrical ornament or cap surmounted with three smaller but imperfect pyramids, surrounding a smaller cylinder. The whole face is in an unfinished state, and still retains the marks of the chisel.

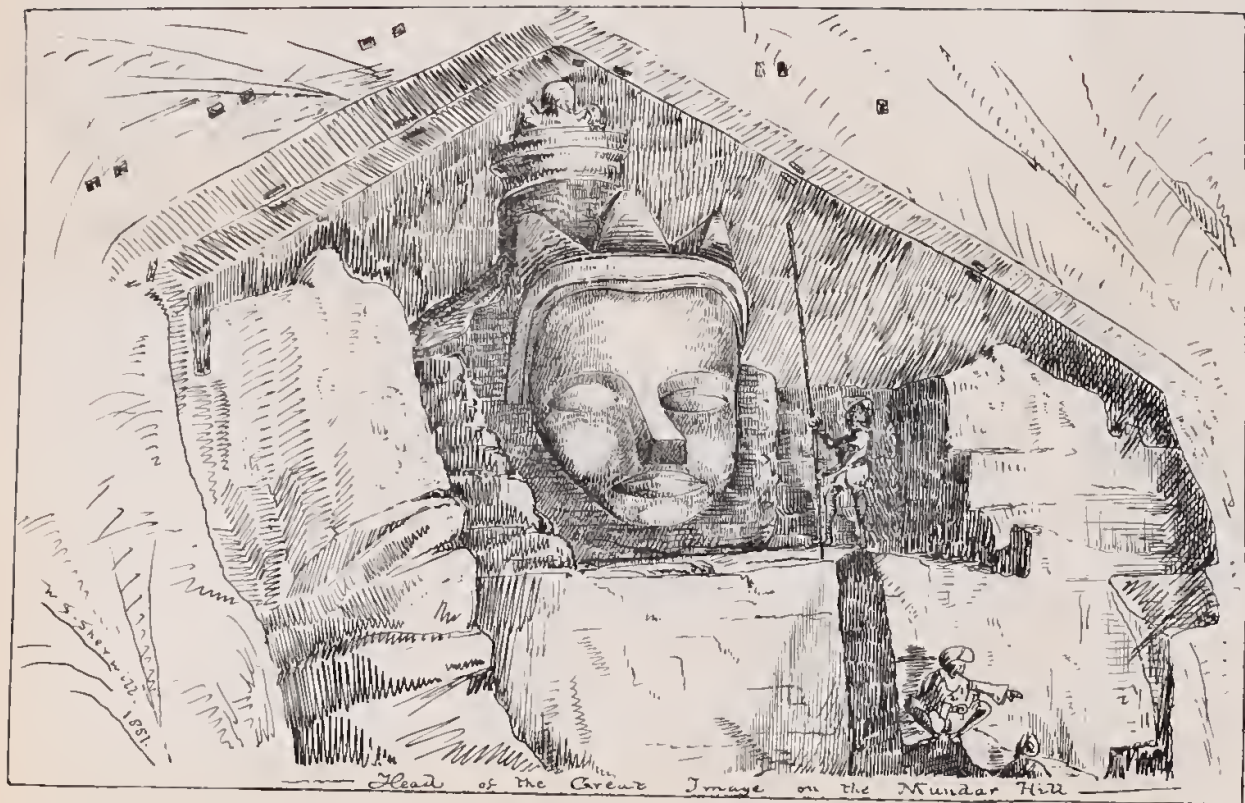
Roughly hewn steps lead up to the chest, a smaller set lead up to the left ear, numerous square and oblong holes have been perforated through the overhanging cornice of rock for the purpose of attaching an awning to protect the workmen from the sun, and to the right low down the rock, a huge cauldron-like looking hole has been excavated for the purpose of holding drinking water for the same people. To the left at the base of the rock, is a small excavated cave, its dimensions are that of a cube of six feet, and was probably used as a receptacle for the tools and clothes of the workmen.

This image is not worshipped by the Hindus, but numerous pilgrims, during the month of January, visit the hill and pay their respects and perform their worship in a small temple built on the summit of the hill, which contains the likeness of two feet similar to those placed over the spot where Suttee has been performed.

The accompanying inscription has been copied from Dr. Buchanan's work on Bhágalpúr.

The following measurements taken on the spot will perhaps give an idea of the labour that must have been expended upon this gigantic piece of sculpture.

	Ft.	In.
From top of forehead to bottom of chin,	6	7
Length of nose,	2	0
Ditto ditto eye,	2	10
Ditto ditto lips,	4	2
Across the forehead,	8	4
Base of nose,	2	6



Head of the Great Image on the Munda Hill



Circumference of face measuring across the forehead, down
the right cheek, under the chin and up the left cheek, 21 6

A line following the profile from the summit of the triangular ornament on the head to the throat, 14 4

NOTE.—Taking the head as $\frac{1}{8}$ th of the entire body or figure we have 6 ft. 7 in. \times 8 ft. = 52 ft. 8 in. as the height of the figure.

This piece of sculpture, although within thirty miles of the Ganges, is seldom visited, and has not been seen by more than half a dozen Europeans.



Influence of the Moon on the Weather. By J. MIDDLETON, Esq.
F. G. S.

The following reductions, and the observations on which they are based, have been made, during the past year, with a view to ascertain to what extent, if any, the lunar phases influence the weather. It is at first sight easier to admit, than to reject the belief, that the moon may, by the production of atmospheric tides, assist in bringing about changes in the weather; but then it is to be considered that electrical development, and other causes of disturbance, must be sufficiently potent to neutralize or mask, generally speaking, the effects of the moon. This must be especially the case in mountainous countries, where oceanic currents are subject to frequent alteration of temperature and direction. It occurred to me, therefore, that few places can be better situated than this for determining the lunar influence, if any; since disturbances arising from irregularities of surface are almost entirely eliminated; while the wind having a normal direction throughout the year, viz., from west to east, would render particular changes more easy of detection.

Reductions of observations at Greenwich, extending over several years, were, I believe, made sometime ago with a similar view, and gave negative results; but I have no opportunity of reference to them. I observe also by a notice in the Philosophical Journal received by last mail, that Professor Airy has lately read a paper before the Royal Society on the same subject, and leading to the same conclusion. His observations, like the former, no doubt, extended over a long period, and therefore may be looked upon as conclusive so far as the place at which they were made is concerned. The question, however,

is perhaps not one to be settled by observations extending over time merely, although that is undoubtedly necessary to trustworthy results, and this was an additional motive to my taking up the question here. You will remark that my observations extend only over 11 lunations, and cannot therefore be received as conclusive on the point, even with reference to Agra, but it is a commencement which I intend shall be followed up. The month of December, during which observations were not recorded, on account of the matter having escaped me for a few days from press of other occupation, was a particularly steady one; and would not, I believe, have disturbed the general result had that month been also included.

It is a curious fact that the belief in lunar influence on the weather, though continued here by Europeans and maintained by their descendants, is not participated in by either Mahomedans or Hindus; nor, so far as I can learn, is mention made of it in Sanscrit or Arabic books. The inference from this fact is strongly against the existence of any such influence—discernible at least by its effects, in Asia; since one would suppose Astrologers must, if it existed, have detected it. Moreover the setting in of the periodical rains is an event of immense importance to all classes, and if any connexion existed between it and the lunar phases, the circumstance could scarcely, one would think, have remained unnoticed.

I have not sent you the tables in which the observations were noted, since they would occupy more space than they perhaps deserve. The way in which the reductions of them, as contained in the following tables, have been made is this. I have, you will observe, divided the lunar period into four equal parts, named the New Moon, the Second, the Full Moon, and the Fourth Period. The New Moon Period consists of seven days reckoned from three days previous to the day of New Moon to three days after that day, which day being included makes seven days. The Second Period is reckoned in the same manner, with this difference, that the day on which the second quarter of the Moon begins is the middle day, which together with the three days previous to it and the three days after it, constitutes the period. The Full Moon Period has seven days, three days being reckoned on each side of the day of the Full Moon. The Fourth Period has similarly three days counted on each side of the day on which the last quarter of the Moon begins.

TABLE I.

Summary for each Period.	Rain.			Quantity of Rain in In.		Direction of the Wind.								Storms.	
	Heavy Rain.	Slight Rain.	Total No. of Rainy Days.	days.	days.	East.	West.	North.	South.	North East.	North West.	South East.	South West.		
11 New Moon Periods.	7	5	12	26	5.72	26	41	2	6	..	..	..	..	4 days.	1 day Haze. 4 Meteoric appearance.
11 Second ditto.	3	5	8	15	2.64	16	50	..	3	1	..	1	1	4 E. to W.; 1 W. to E.; 1 S. to E. 1 E. to W.; 2 W. to E.; 1 S. to W.; 1 S. to E. 2 E. to W.; 1 W. to E.; 4 W. to N.; 1 E. to S.	
11 Full Moon ditto.	9	3	12	24	5.74	29	39	1	..	4	..	..	..	0	
11 Fourth ditto.	16	10	26	20	6.25	32	37	1	..	4	..	..	2	4	1 day Haze.
Total...	35	23	58	85	20.35	103	167	4	9	9	..	1	3	14	2 days Haze.

From January to November, 1850.

TABLE II.

From January to November, 1850.														
Summary.	Rain.			Number of Cloudy Days.	Quantity of Rain in In.	Direction of the Wind.								
	Heavy Rain.	Slight Rain.	Total No. of Rainy Days.			East.	West.	North.	South.	North East.	North West.	South East.	South West.	Variable Winds.	Storms.
New and Full Moon Periods.	16	8	24	50	11.46	55	80	3	6	4	6	6 E. to W.; 2 W. to E.; 4 W. to N.; 1 S. to E.; 1 E. to S.	10	Meteor and 1 Haze.
Second and Last Do.	19	15	34	35	8.89	48	87	1	3	5	1	32 E. to W.; 2 W. to E.; 1 S. to W.; 1 S. to E.; 1 E. to N.; 1 E. to S.; 1 W. to N. W.; 1 W. to S. W.	41	Haze.

It will be seen that the number of days in which rain fell during the period of observation was 58, of which 24 belonged to the New and Full Moon Periods, and 34 to the two remaining Periods. Again, of the total quantity of rain—20.35 inches—which fell ; 11.46, fell during the New and Full Periods, and 8.89 during the remaining two ; so that while more rain fell about the time of New and Full Moon, there was a greater number of rainy days during the intervening Periods. The number of cloudy days, again, during the New and Full Moon Periods, was nearly double the number of those during the remaining Periods. The same may be said of the change, or departure from the normal direction of the wind, which at Agra is, as already said, about west. It is to be observed, however, that the change in the direction of the wind, and occurrence of cloud, are closely allied and may indeed be looked upon, with reference to cause, as merely phases of the same phenomena. The difference which appears to be most decidedly in favour of the moon's influence is in the matter of storms. These, however, when they begin, usually follow each other for a few days in quick succession, and the inequality may, therefore, until further evidence be produced, be looked upon as in some measure accidental. This view is encouraged by the fact, that of the four days of storm occurring during the second and last periods, the whole happened during the latter. It is unlikely that this would have been the case were they due to lunar influence ; for since the moon passes through corresponding positions relatively to the earth and sun, during the former as during the latter period, some of them would have probably happened in the one as well as in the other. Doubts, such as these, can only be removed by observations extending over long periods, and on this account I propose continuing them or having them continued, as mentioned above. It must be allowed, I think, that so far as these results go, they seem to vindicate in some degree the moon's title to the power with which she has been supposed to be endowed.

The meteor mentioned among the observations was sufficiently remarkable to entitle it to description—it appeared on the morning of the 4th September.

I was awoke on the morning of that day after 4 o'clock by my friend Mr. Williams, Head Master of the College, who announced to me

that something remarkable had occurred towards the north, and directed my attention to the sky, when a truly beautiful object presented itself, viz., a delicate arch of light, extending from about 4° from the horizon on the west, to about 7° on the east, its crown rising up to near the pole star. It looked as if an even and rigid rod, coated with phosphorus, had been made to arch the sky in the manner described. It was seen under very favourable circumstances also, in so far as no trace of cloud was any where visible, and the sky being at the time of that peculiar depth and transparency which is to be witnessed here during a break in the rains. The account which he gave of its first appearance was this. A servant rushed into the house in great fright declaring that the sky had split ("asmán phat giä hai"). He first saw, he said, an immense ball of fire pass from east to west which left behind it the rent which had terrified him so much.

During the time which I was able to observe the arch, about 20 minutes, it increased in curvature near the crown, which, besides, moved slowly through about 2° towards the east. The dawn was now setting in and the arch diminishing in absolute brightness, though still as well defined as at the first, and before it ceased to be distinguishable it had shortened by several degrees, wasting away from the ends upwards.

Agra, 12th May, 1851.

The initial letters of the Nineteenth Súrah of the Qorân.

By DR. A. SPRENGER.

There is a chapter in Ibn Ishâq which leads us to suppose that the nineteenth Súrah of the Qorân, which contains a poetical history of John Baptist and of Christ, and which Mohammad sent with his fugitive followers to Abyssinia was purposely written to please the Najáshy or king of that country. This is the more likely as many other Súrahs were composed for special occasions. It is therefore not improbable that the five letters which stand at the head of the Súrah, viz. ك ه ي ع ص, and the meaning of which is an enigma for the commentators of the Qorân, are a Christian Symbol. In Roman Catholic countries the letters

I. N. R. I., meaning *Iesus Nazarenus Rex Judæorum* the words which were written over the cross of our Saviour in three languages, are frequently used, sometimes as an ornament, sometimes as a charm, &c. Should these Arabic letters have the same import? viz. *عيسى الناصري ملك اليهوديين*. I need hardly to mention that in Arabic the most striking or conspicuous letter or letters of a word are used in abbreviations but seldom the first, thus *آخر* is expressed by *خ* in *الخ*. Travellers in the Levant might inquire what the Christians in Syria, or in the 'Irâq, or in Upper Egypt write instead of our I. N. R. I.

We usually write,

I. N.

R. I.

In this way good Roman Catholics write it every morning on the foreheads of their children with their thumb dipped into holy water, and I dare say the Arabic letters were originally written,

كهى i. e. R. I.

عص i. e. I. N.

and read from below as legends in coins are read.

Literary Intelligence.

Sir Henry Elliot has extended the plan of his "Indian Historians" to ten volumes which are to embody, besides bibliographical and biographical notices, a complete history of the Mohammadan power in India. To this end he intends to give extracts from the authors whose works he notices, selecting from every one that portion which contains the fullest and most faithful account of a given period and illustrating it by the observations of other Historians. By following this original but most laborious plan, he will give us a more trustworthy history of India than we have of any other country. The book will offer all the advantages of a collection like the *Monumenta Boica* or *Muratori*, but the materials are fully digested, and illustrated with erudite notes; and the valuable biographical and bibliographical details which form the ground-work, enable the reader to form a correct judgment on the merits and veracity of the authors.

The first volume of this work is before the public, and it contains the general Historians who enter on the history of India down to Jehángyr.

- Vol. II. General Historians from Jehángyr to this time.
- Vol. III. Arabs, Ghaznawides, Ghorides.
- Vol. IV. Khiljis, Toghluks, Tymúr, Sayyids, Afgháns.
- Vol. V. General Historians of the Mogul dynasty.
- Vol. VI. Special histories of the Mogul dynasty in its rise.
- Vol. VII. Ditto, in its splendour.
- Vol. VIII. Ditto, in its decline.
- Vol. IX. Ditto, in its fall.
- Vol. X. Original extracts as specimens of the style of the Historians under review.

Mr. G. Thomas, C. S. is engaged in compiling a second appendix to his coins of the Pathan Kings of Dehli.

At Dehli the *Moattá*, which is the earliest collection of traditions, has been published by Mowlavy Mohammad Mazhar who is now at Ajmeer;—and Mowlavy *Háfiz* Ahmad 'Alyy is fast advancing with his edition of *Bokháry*, more than one-half is printed. *Abú Dawúd* has been lithographed at Lucknow, *Nasáy* and *Tirmidzy* at Dehli, and *Moslim* has been printed in types at Calcutta. We require therefore only an edition of *Ibn Májah* to complete the six canonical collections of Sunny traditions.

Dr. Sprenger is printing the *Kitáb alma'árif* of *Ibn Qotaybah*. He has three copies, every one of which is more than six hundred years old but only one is complete. He is also publishing a new edition of the *Gulistáin*. He follows the text of the MS. of the Asiatic Society of Bengal, which was transcribed for 'Álamgyr, from a copy which the celebrated Caligrapher 'Imád had taken from the autograph, and he adds the vowels and punctuation on a new system.

The first part of the Biography of Mohammad by Dr. Sprenger is completed and will shortly be published. It comes down to the Hijrah.

Dr. E. Roer is proceeding with his translation of the *Brihadá-ranyaka Upanishad*, and of its commentary by Sankara.

He also revises the text of the *Sáhitya Darpana*, which, together with a translation by Dr. Ballantyne, is to appear in the *Bibliotheca Indica*, and he is engaged in collating two MSS. of the *Saṁhitá* of the black Yajur for publication.

With reference to this last undertaking he would once more call upon all that take an interest in the complete publication of the Vedas to lend him their aid in procuring MSS. of the Sāṁhitā of the black Yajur veda and its commentary by Śāyavāchārya.

A life of Śākya Sīṁha, the great Bauddha prophet of Maghda, is in the press, and will ere long be published in the Bibliotheca Indica. The work is entitled Lalita-Vistara and was compiled in Sanskrita about the end of the sixth century from ballads in an obsolete *patois* of that language, composed evidently by bards (*Bhāt*) at a much earlier period. Several MSS. have been procured for collation, three of them from Nepal, obtained through the liberality of our learned associate Mr. B. H. Hodgson of Darjeling. The editor, Bābu Rājendralāl Mitra has promised an English translation, which will appear along with the text.

At Lahore an Agri-Horticultural Society has been founded by the exertions of the indefatigable Mr. H. Cope.

The Rev. J. Long is engaged in compiling a *Typographia Bengalensis* which will comprise an account of all Bengali and Sanscrit works, published in the Lower Provinces.

Notice of a Ruin in Singhbhūm.

To Dr. A. Sprenger, Secretary of the Asiatic Society.

SIR,—A conversation having taken place at the last meeting of the Asiatic Society with reference to the ruins of ancient cities found at different times in India and particularly with respect to a communication on this subject which had been received relative to one supposed to exist in *Singhbhūm*, I was requested to procure the last report of the Mirzapur Mission, in which the Rev. R. Mather gives an account of extensive ruins found by him on a tour. The Rev. R. Mather made in January, 1850, a tour to Singrauli; passing from Mirzapur to the Table Land of Ghorawal, then to the Kymore range near the valley of the Soane, and so on to the coal mines of Kotah 90 miles from Mirzapur. With regard to this place Mr. Mather says—

“Before leaving home I had heard from Major S. that in this neighbourhood, were certain ancient Hindu structures, the origin of which was totally unknown.

He could not tell me the exact locality, but the Rajah's brother informed us that they were at Márah, a place in the Rewah territory, distant 24 miles. This seemed to us no great distance and so we resolved to go, hoping to make the journey there and back in four days. Our first stage was to Bhurkun a fine large village, 16 miles from Kotah. The next day, we changed our plan and set out with a number of people to see the ancient structures, intending to return the same evening to the tent which came up in the morning. The place we were to visit, is celebrated as being in the dark deep recesses of the forest, hardly penetrable by man or beast. We were warned to go well prepared with fire arms, spears, swords, &c. We were told that they were excavated out of the solid rock, and that there were several separate chambers, and that nobody had ever dared penetrate to the far interior. A Mr. Russell it was said had gone, and had killed a large snake, a sort of dragon, 30 feet long, which some of them said they had seen, and which was called a pahárá tiithi. Our people hearing all this were all disposed to stay at home; Dáúd said, he would rather not go, and so we mounted Chhotú on the pony to carry the gun, greatly against his will however, for he had no desire to be either first dish or last to the best tiger of the forest. On arriving at the village of Márah, we got more people, the Rajah's brother having sent written orders that they should go with us. One said we must not venture to enter the cave with fewer than 150 men and an abundance of torches. These reports made us rather nervous, but still, we were resolved to go on. We rode for three miles in the forest, then leaving the road, we made our way through the thicket, cutting down branches as we passed on to allow of the ponies finding room to move, till at length we reached the place on the side of the mountain, covered on all sides by dense and luxuriant vegetation, but having a small clear space to the front. Externally appeared a row of square stone pillars about eight feet high cut out of, and supporting the rock; within appeared other rows. It was such a place as a tiger might well choose for his lair and the idea that perhaps there might be one ensconced in the far off recesses, made us cautious. We first fired off a pistol within the excavated cavern and nothing issuing we lighted our torches, and ventured in to explore the recesses. We found several small rooms, and the foot marks of the Samur, and also porcupines' quills, but no wild animal. From this, we passed to a second, and then a third building, and explored them all. The whole are probably, 130 feet in length, and in one part, there are two stories, of similar height. The depth of the interior cannot be less than from 40—50 feet. The external pillars are richly ornamented, but being of sandstone and exposed to the weather it is difficult to trace the exact pattern, but in the second building, is a very massive pillar cut on the four sides, apparently representing a four-faced figure, sitting in the attitude in which Budh is depicted.

The writer makes few observations on this, but it may serve perhaps as a clue to further enquiry and may induce some possessed of the antiquarian spirit of a Tod or a Mackenzie to explore the interior of that part of the country. We know little as yet of the districts of India away from commercial emporia and the chief cities. We know from competent data that large cities existed in the Sunderbunds in former days, though they have long since passed under the hand of decay. But every effort ought to be used in the present time to trace out the remnants of "the olden time."

Yours truly,

J. LONG.

Calcutta, May 6th, 1851.

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR MARCH, 1851.

The Society met on the 5th instant at the usual hour and place.
The Honorable SIR JAMES COLVILLE, President, in the Chair.
The proceedings of the last meeting were read and confirmed.
The following gentlemen, proposed and seconded at the last meeting,
were balloted for and elected.

Dr. A. Sprenger.

J. H. B. Colvin, Esq.

Bābu Jādabakrishṇa Siṅha, was named for ballot at the next meeting,—proposed by Mr. E. Blyth, and seconded by Mr. Heatly.

Read letters—

From E. Lushington, Esq., T. C. Sandes, Esq., J. B. Elliot, Esq.,
W. J. H. Money, Esq. and W. Greenway, Esq. intimating their resignation as members of the Society.

From the Hon'ble Colonel W. P. Butterworth, Governor of Prince of Wales Island, Singapore and Malacca, and President of the Singapore Committee of Arts and Industry of all Nations, transmitting a printed list of the articles collected and forwarded to England, by the Local Committee of Singapore, for the Great Exhibition of 1851.

From W. Seton Karr, Esq., Under Secretary to the Government of Bengal, forwarding, for the use of the Museum of Economic Geology, a Map of each of the districts of Shahabad and Sarun.

From Captain Burt, 64th Regiment N. I., forwarding specimens of a large sized oyster found in the Kainh river in Penang.

From W. Seton Karr, Esq., Under Secretary to the Government of Bengal, enclosing a report on the Adinah Masjid by Captain Gaitskill.

*From W. SETON KARR, Esq., Under Secretary to the Government of Bengal,
To the Vice-President and Secretary, Asiatic Society.*

Fort William, 19th February, 1851.

SIR,—In continuation of the letter from this office, No. 913, dated the 11th June last, I am directed by the Deputy Governor of Bengal, to transmit herewith, for the information of the Asiatic Society, a copy of a letter from Captain Gaitskill,

Executive Officer to the Superintending Engineer, and to state that his honor has decided that, beyond the measures already adopted, no further outlay is at present necessary for the preservation of the Adinah Masjid of Pandowah, situated near the ruins of Gaur.

The Superintendent of Police has, this day, been requested to direct the Joint Magistrate of Maldah to take charge of the Masjid in question, and to endeavour by all lawful means within his power to prevent its being damaged. If necessary, the Joint Magistrate will have the jungle cleared away periodically, whenever it may be necessary.

I have, &c.

(Sd.) W. SETON KARR,

Under Secretary to the Government of Bengal.

To Col. E. GARSTIN, Superintending Engineer, Camp Adina Mosque.

Pandah, 25th November, 1850.

SIR,—In continuation of my previous communications noted in the margin, I have the honour to forward the accompanying plan, and regret I am unable to give a drawing more in detail, as the unhealthiness of that part of the country at this season prevented my remaining there more than a few hours, but sufficient to convince me that the restoration or even repairs of the Adina Mosque are quite out of the question. The ruin in its present state gives the venerable place an aspect of interest to the antiquarian and visitor, and bespeaks the pristine grandeur of the monument, a small portion of which is standing, and that must inevitably give way to the ravages of time.

There are but few elaborately carved inscriptions still legible, and to be seen is the royal platform and some pillars of polished indurated potstone impregnated with hornblende. The arches and domes are completely covered by a forest of trees and creepers, growing through the masonry, in fact it appears held together by the interwoven branches, which if removed would certainly endanger the structure; and many other of its architectural remains lie scattered around in huge fragments. The outer walls are partially standing. It is a quadrangular building consisting of cloisters surrounding an open Court, 518 feet long by 318 wide.

Five hundred Rupees, which the Government has so liberally given for the clearance of the jungle, has been successfully laid out, and now the whole of the ruin is accessible; and I do not see how the wishes of the Asiatic Society can be further or more effectually carried out than by the protective measures already enforced by the Government for the preservation of the remains of this ancient Mohamedan Mosque, in prohibiting the carrying away of any sculptured pieces of stone or masonry as they separate from the building, and by having the jungle periodically cleared away by the Joint Magistrate of Maldah, under whose special charge, I would take the liberty to suggest its being placed, as it is within his jurisdiction.

I have, &c.

(Sd.) J. G. GAITSKILL, Capt.

Offg. Executive Officer.

Fourth Division.

True Copy.

(Sd.) J. W. BEADLE,

Offg. Secretary.

Mr. Blyth, Curator in the Zoological Department, read a report on the Mammalia and more remarkable species of Birds inhabiting Ceylon.

The Council submitted a report on the publication of the *Bibliotheca Indica*.

Ordered—That the report be brought forward for consideration at the next monthly meeting.

Two specimens of carved stone lattices from Bundie, specimens of rock crystals, of sandstone with impressions of ferns, of iron ores, a hone, and a Mahratta MS. purporting to be a History of Bundie, were presented by Rev. J. Long, in the name of Captain E. C. Burton, Harrowtee.

Ordered—That the Secretary be directed to communicate with the Secretary of the Bombay Vernacular Translation Society, as to the value of the MS. presented by Captain Burton.

Read the subjoined extract from a letter from T. B. Mactier, Assistant Magistrate, West Burdwan.

“It may not be uninteresting to some of the members of the Society to mention that while conversing with the natives concerning their idea of the origin of such stones (the Aerolites), one mentioned, that many years ago he had seen in the middle of the jungle some 100 cosses to the S. W. of this, the remains of what he called an enchanted City, the inhabitants of which had all been turned into stone. He described one street as a bazar in which tradesmen such as chutars, moiras, &c. were to be seen in the act of carrying on their various trades, other persons had heard of the existence of such a place, but none could give me exact information of its whereabouts. As my informants could have had no motive in telling me a complete falsehood, I am inclined to think there may be a grain of wheat in this bushel of chaff, and I am now trying to obtain more perfect information as this may refer to some interesting remains of by-gone ages. I will let you know hereafter of the result, but in the meantime it might perhaps be as well to ascertain whether there is any mention made of the ruins of this description among the transactions of the Society.”*

Dr. Roer submitted an extract from a letter received by him from Mr. F. M. Dümmler, Berlin, announcing the despatch of 20 copies of Dr. Weber's edition of the *Yajur Veda* subscribed for by the Society, as also, of certain Oriental works published by him for exchange.

Ordered—That the amount of the Society's subscription for Dr. Weber's *Yajur Veda* be remitted to Mr. Dümmler, and the letter be referred to the Council for report at the next meeting.

From Dr. Von Martius, Secretary to the Physical and Natural History Section of the Royal Bavarian Academy, requesting a set

* Vide ante p. 283. ED.

of the transactions of the Society for the Library of the Royal Bavarian Academy.

Ordered—That a set of each of the Researches and the Journal as far as available, be forwarded to the Academy, care of Mr. Rading the Agent of the Academy at Hamburgh, and the letter be referred to the Council.

The Librarian having submitted his usual monthly report, the meeting adjourned.

Confirmed, *5th April*, 1851.

J. W. COLVILE,
President.

LIBRARY.

The following additions have been made to the library, during February, 1851.

Presented.

A Geological Report on the Damoodah Valley. By D. H. Williams, Esq. London, 1850, 8vo. (2 copies).—BY THE GOVERNMENT OF BENGAL.

Report of the Geological Survey of India, for the season of 1848-49, comprising I. General Remarks: II. Geognosy: III. Description of plates and collections. By J. M'Clelland, F. L. S. Calcutta, 1850, 4to. (2 copies).—BY THE SAME.

Report on the Survey of Calcutta. By F. W. Simms, Esq. Calcutta, 1851, foolscap folio, (2 copies).—BY THE SAME.

The White Yajur Veda, edited by Dr. Albrecht Weber. Part I. Nos. 2, 3.—BY THE EDITOR.

Indische Studien. Zeitschrift für die Kunde des indischen Alterthums; im Vereine mit mehrern Gelehrten herausgegeben von Dr. Albrecht Weber. Zweites und Drittes Heft. Berlin, 1850.—BY THE EDITOR.

Madras Journal of Literature and Science, vol. XVI.—BY THE MADRAS LITERARY SOCIETY.

Journal of the Indian Archipelago for January, 1851.—BY THE EDITOR.

A Prize Essay on Hindu Female Education, in Bengali. By Tárásankara Sarmá. —BY BABU RAJENDRALÁL MITTRA.

Upadeshaka, No. 51.—BY THE EDITOR.

The Oriental Baptist, No. 51.—BY THE EDITOR.

The Calcutta Christian Observer, for March, 1851.—BY THE EDITOR.

Oriental Christian Spectator, for January, 1851.—BY THE EDITORS.

Tattwabodhiní Patriká, No. 90.—BY THE TATTWABODHINÍ SABHÁ.

The Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of January, 1851.—BY THE DEPUTY SURVEYOR GENERAL.

Purnachandrodaya, Newspaper, for February.—BY THE EDITOR.

Purchased.

The Annals and Magazine of Natural History for December, 1850.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of March, 1881.

Observations made at Sun-rise.				Observations made at apparent noon.				Maximum Pressure observed at 9h. 50m.				
Date.	Temperature.			Wind.	Aspect of Sky.	Temperature.			Wind.	Aspect of Sky.		
	Bar. 32° F. red. to	Of Mer.	Of Air.			W. Bulb.	Of Mer.	Of Air.			W. Bulb.	
1	Inches	73.0	73.2	72.0	S.	Foggy	78.3	80.4	75.4	S. W.	Cumulo-strati	
2S	29.885	73.0	73.0	71.4	S.	Clear	78.7	80.9	75.2	S. S. W.	Ditto	
3	.939	69.0	68.2	67.0	N. N. E.	Ditto	74.2	76.4	73.2	N.	Cumuli	
4	30.015	74.3	74.4	73.0	W. N. W.	Cirro-strati	78.0	80.4	75.0	N.	Cirro-strati	
5	.005	69.0	68.9	62.3	N.	Clear	.067	76.3	66.4	N. N. W.	Clear	
6	.009	70.6	70.0	62.3	N. N. W.	Ditto	.062	75.8	66.4	N. W.	Ditto	
7	29.980	68.6	67.8	64.2	N.	Ditto	.042	76.0	68.8	N. W.	Ditto	
8	.971	70.7	70.2	65.3	W.	Cirro-strati	.027	77.5	81.0	64.6	N. N. W.	Ditto
9S	.953	69.3	69.2	66.0	N. W.	Cirro-cumuli	.024	80.0	64.0	E. N. E.	Cirro-cumuli	
10	.934	71.6	71.5	66.6	N. W.	Ditto	29.988	78.6	81.6	67.3	N. W.	Ditto
11	.897	70.6	71.0	67.3	N. W.	Ditto	.940	79.4	83.2	69.3	N. E.	Ditto
12	.871	73.6	73.6	70.5	W. N. W.	Ditto	.927	79.6	83.7	69.4	N. W.	Clear
13	.800	71.9	71.6	67.4	S. W.	Clear	.867	81.0	85.2	71.3	W.	Ditto
14	.846	75.7	75.6	73.4	S. W.	Ditto	.918	81.6	84.2	78.0	N. W.	Ditto
15	.831	75.3	74.9	73.0	S. S. E.	Ditto	.900	81.6	84.2	75.6	W. S. W.	Ditto
16S	.797	75.8	75.3	67.3	N.	Ditto	.887	82.2	85.0	65.6	N.	Ditto
17	.850	72.0	71.6	66.0	W. N. W.	Ditto	.928	80.0	83.9	68.4	N. W.	Ditto
18	.914	72.2	72.5	69.9	N. W.	Ditto	.955	80.9	84.3	71.3	S. W.	Ditto
19	.898	74.2	74.3	72.0	S. W.	Ditto	.946	81.3	83.8	76.5	S. W.	Ditto
20	.809	75.4	76.0	74.0	S.	Cloudy	.841	82.0	84.4	78.5	S. S. W.	Ditto
21	.708	77.6	77.3	75.4	S. E.	Scattered-clouds	.769	81.4	83.2	77.5	S. S. E.	Cloudy
22	.737	78.2	78.2	76.1	S. W.	Cloudy	.823	82.3	84.0	78.3	S. W.	Clear
23S	.825	72.8	73.0	70.8	S. W.	Clear	.885	82.0	86.0	74.0	S. S. W.	Ditto
24	.869	76.0	76.0	74.4	S. S. W.	Ditto	.925	82.0	85.0	77.4	S. W.	Ditto
25	.880	77.6	78.0	76.3	S. W.	Cloudy	.945	82.6	85.0	77.5	S. W.	Ditto
26	.907	76.2	75.6	74.0	S.	Ditto	.951	83.3	87.3	76.4	S. W.	Ditto
27	.852	76.8	75.9	74.8	S. E.	Foggy	.948	84.0	78.3	78.3	S.	Ditto
28	.910	76.3	76.5	75.0	N.	Ditto	.962	81.4	83.4	77.0	S. W.	Ditto
29	.926	74.0	74.0	72.0	W. N. W.	Ditto	30.008	80.0	82.0	75.2	N.	Cumulo-strati
30S	.907	74.6	74.8	72.2	W. N. W.	Cloudy	29.981	75.8	76.0	71.2	E.	Cloudy
31	.950	74.0	74.2	71.9	N. N. W.	Clear	30.011	80.3	82.3	75.0	N. E.	Cumulo-strati
Mean	29.891	73.5	73.4	70.4	....	.....	29.955	79.8	82.5	72.8	....	.....

Meteorological Register, continued.

Observations made at 2hs, 40m.					Minimum Pressure observed at 4 p. m.					Observations made at sun-set.					Maximum and Minimum Thermometer.				Rain Gauges.				
Temperature.		Wind.		Aspect of Sky.	Temperature.		Wind.		Aspect of Sky.	Temperature.		Wind.		Aspect of Sky.	Max.	Mean.	Min.	Max. Therm. in sun's rays.	Upper.	Lower.			
Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.		Bar. red. to 32° F.	Of Mer.	Of Air.	W. Bulb.		Feet. 4.	Feet. 4.												
Inches	°	°	°		Inches	°	°	°		Inches	°	°	°		°	°	°	°	Inch.	Feet.			
29.835	86.6	87.6	76.4	S.	Cumulo-strati	29.825	87.3	87.3	76.3	S S W	Cumulo-strati	29.848	84.0	82.4	75.4	S.	Cloudy	88.0	80.7	73.4	107.0	0.94	0.98
.874	85.3	86.0	75.3	S.	Ditto	.854	85.8	85.6	75.4	S.S.E	Ditto	.868	84.6	84.0	75.2	S. E.	Cloudy	86.8	79.9	72.9	107.6		
.902	83.7	85.0	75.4	S.	Clear	.889	85.0	85.6	76.0	E.S.E	Clear	.900	82.8	82.0	75.8	S. E.	Cirro-strati	85.9	77.3	68.7	107.3		
.935	86.4	87.2	73.3	W.	Ditto	.916	87.4	88.0	72.6	N.E.	Ditto	.919	85.0	82.8	73.0	N. E.	Clear	87.8	80.9	74.0	110.4		
.941	88.0	89.3	70.8	N.	Ditto	.918	88.8	89.4	70.2	N.	Ditto	.931	85.4	83.2	70.8	N.	Ditto	89.4	79.2	68.9	109.0		
.934	88.8	90.0	68.0	N.	Ditto	.909	89.6	90.3	68.2	N.	Ditto	.908	85.8	83.2	70.8	N.	Ditto	90.4	80.4	70.4	108.0		
.906	88.8	90.0	69.8	N N E	Ditto	.884	89.8	90.3	69.4	N. W.	Cirro-strati	.891	85.6	83.2	71.3	S.S.W	Cirro-strati	90.8	79.7	68.6	108.4		
.890	89.5	90.9	69.0	w.s.w.	Cirro-strati	.872	90.3	91.3	69.0	N. W.	Ditto	.878	85.5	83.8	72.0	N.	Ditto	91.7	81.2	70.7	108.3		
.904	89.3	90.3	68.6	w.s.w.	Cirro-cumuli	.892	89.7	91.0	69.7	W.	Cirro-cumuli	.894	85.5	83.8	71.2	W.	Cirro-cumuli	91.0	80.3	69.6	114.2		
.865	90.3	91.6	69.2	w.s.w.	Ditto	.845	90.8	91.4	69.0	w.s.w.	Ditto	.841	87.8	85.3	71.4	W S W	Ditto	92.0	82.0	72.0	109.3		
.884	89.5	91.0	70.4	w.s.w.	Cirro-strati	.823	90.4	91.4	69.9	W S W	Cirro-strati	.833	86.3	85.4	73.5	w.s.w.	Ditto	91.8	81.5	71.2	114.6		
.788	93.2	94.0	70.1	w.s.w.	Clear	.764	93.6	94.0	71.0	S. W.	Clear	.754	89.5	87.4	73.3	S. W.	Clear	95.0	84.5	74.0	111.5		
.737	95.0	96.4	72.5	S.	Ditto	.718	95.5	96.3	73.0	S. W.	Ditto	.733	90.4	88.3	73.5	S S W	Ditto	97.2	84.6	72.0	117.5		
.815	93.4	95.2	77.2	E.	Ditto	.790	94.3	95.3	77.1	E.S.E	Ditto	.794	90.7	89.6	79.0	S. E.	Ditto	95.8	86.2	76.5	116.3		
.764	92.3	93.9	79.2	W.	Ditto	.756	93.2	93.4	77.3	W.	Ditto	.763	90.5	88.9	77.4	W.	Cirro-cumuli	94.6	81.9	75.2	114.0		
.762	91.6	92.8	68.4	w.s.w.	Ditto	.738	92.4	92.7	69.0	W S W	Ditto	.733	88.4	86.2	68.6	S.	Clear	93.7	84.6	75.4	113.0		
.808	93.2	94.5	67.7	w.s.w.	Ditto	.791	93.3	93.6	67.3	w.s.w.	Ditto	.801	88.0	85.4	69.3	N. W.	Ditto	94.8	83.4	71.9	114.0		
.836	91.8	92.6	71.0	S.S.W.	Ditto	.823	92.2	92.2	70.3	S.S.W.	Ditto	.832	88.3	86.6	73.4	S.	Ditto	93.6	83.2	72.8	113.7		
.811	91.6	92.6	75.4	S.	Ditto	.785	92.0	92.0	73.4	S.S.W.	Ditto	.793	88.3	86.3	71.4	S.	Ditto	93.2	84.0	74.7	112.3		
.725	92.2	93.0	79.0	S.	Ditto	.707	87.5	86.0	78.6	S.	Ditto	.707	87.5	86.0	78.6	S.	Ditto	93.5	84.8	76.0	109.6		
.658	89.0	89.4	79.8	S. W.	Cumuli	.626	88.7	88.4	79.0	S.	Cumuli	.615	84.0	83.3	75.4	S. slp.	Cloudy	90.3	83.9	77.4	105.0		
.725	91.5	92.2	71.2	N. W.	Clear	.712	91.7	91.6	68.8	NNW	Clear	.716	88.2	86.3	68.0	NNW	Clear	92.0	85.5	79.0	107.4		
.766	94.4	95.5	70.0	S. W.	Ditto	.748	92.9	92.3	74.2	S.	Ditto	.770	86.5	84.5	75.4	S.S.W.	Ditto	95.0	84.1	73.2	111.8		
.790	94.4	95.5	70.0	w.s.w.	Ditto	.768	95.3	95.7	72.0	S.S.W.	Ditto	.782	91.0	89.3	78.0	S.S.W.	Ditto	96.0	86.3	76.6	118.0		
.831	95.0	95.7	71.0	W.	Ditto	.821	95.7	96.3	71.0	N. W.	Ditto	.835	91.3	88.7	74.0	N. W.	Ditto	96.3	87.2	78.0	114.4		
.814	96.7	97.4	74.2	w.s.w.	Ditto	.800	97.3	97.6	74.6	S.S.W.	Ditto	.799	92.0	89.5	72.4	S.	Ditto	98.6	87.2	76.0	119.3		
.810	94.4	95.8	74.2	S.	Ditto	.791	95.2	95.6	75.0	S.	Ditto	.803	91.0	89.3	77.2	S.	Ditto	95.6	85.8	76.0	114.6		
.866	92.7	93.5	73.0	S. W.	Cirro-strati	.846	93.4	93.0	77.2	S.	Cirro-strati	.831	87.8	85.2	69.8	S.	Cirro-cumuli	94.8	85.4	76.0	113.3		
.870	89.9	90.5	73.8	S. W.	Clear	.842	90.1	90.0	73.0	S. E.	Clear	.841	88.7	87.5	74.8	E.	Clear	91.0	82.7	74.4	110.5	0.06	0.07
.866	84.6	86.3	74.0	S. E.	Cirro-cumuli	.838	86.7	87.2	74.8	S. E.	Cumuli	.847	84.3	83.2	73.8	S.	Cirro-strati	97.6	81.3	75.0	107.5		
.893	89.2	90.0	75.2	S. E.	Cumulo-strati	.872	90.2	90.2	75.0	S.S.W.	Cirro-strati	.885	88.0	86.4	74.8	S S W.	Clear	91.1	82.8	74.4	110.5		
29.831	90.7	91.8	72.7	.....	.....	29.812	91.3	91.6	72.8	.....	.....	29.818	87.5	85.7	73.4	....	.....	92.4	83.1	73.7	111.2	1.00	1.05



THE SIL HAKO, or Stone Bridge, in ZILLAH KAMRUP.

Drawn by Captain E. T. Dutton R. N. I. Asst. Commr. Assam



THE SIL HAKO, or Ste

Drawn by Captain E T



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